



Clinical Medicine

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★ Editorial ★

Paracelsus

IN the earliest centuries of the Christian Era, the science and art of Medicine rose to considerable heights. It was in this period that the great Galen lived and taught.

But the twilight of the "Dark Ages" of history closed down during the sixth century and, for a thousand years, little or no progress was made in Medicine. The monks, particularly in Constantinople, did us the inestimable service of copying the manuscripts of the Greek and Roman masters, and announced that the care of the sick was a holy duty; Galen was worshipped as a god, and whoso dared to question his pronouncements and authority was anathema; the Bible and the works of Aristotle were regarded as the only recognized sources of scientific information.

With the sixteenth century came the dawn of the renaissance of learning, and with it the beginning of modern Medicine.

Among the goodly company of those who made war upon superstition and unsupported authority, during this tremendous period of transition, was Theophrastus von Hohenheim, who later added to his appellation, the names Phillipus Aureolus Bombast Paracelsus, by which last he is most generally known today.

Paracelsus was born at Einsiedeln, in Switzerland, in 1493, and proved to be one of the most enigmatic characters in medical history, as well as the clinical standard-bearer of his times.

When he was sixteen years old he entered the University of Basel, and finally secured his medical degree at Ferrara, Italy, in 1515, at the age of 22 years.

At this time a large group of students, doctors, unattached scientists, and pseudo-scientific charlatans was roaming all over Europe, practicing various arts, picking up a great deal of miscellaneous knowledge and experience, and sowing the seeds of rebellion against constituted authorities in the world of thought. Paracelsus joined this motley throng for about ten years, and became well known as a powerful and original thinker, a man of boisterous habits and untrammelled speech, but possessing, withal, a keen and critical medical instinct.

In 1525 he tried to become respectable, and accepted an appointment as professor of medicine at Freiburg; then he was a professor at Strassburg for a short time; and finally was made professor of medicine and town physician at Basel, in 1527.

But Paracelsus had learned bad habits during his years of wandering. He was combative and disrespectful of all authorities, coarse and vulgar in his behavior, and a bully by nature and training. He gave his lectures in the low-German of the common people, instead of the Latin which was supposed to distinguish the learned from the vulgar, and did not hesitate to attack Galen and Avicenna, the popes of Medieval Medicine.

Moreover, his mind had become more or less filled with the ideas of astrology, alchemy, witchcraft and other doctrines of that sort which were rife at the time, so that he found no place in the scholastic atmosphere of the universities, as has happened to many other innovators and pioneers, from that time even until now.

He was forced out of his regular teaching positions in 1528, after having a violent dispute with the magistrates, and started out again upon the career of a peripatetic physician, teacher, drunkard, and tavern brawler.

In all his teaching and writing he made war against entrenched dogma and insisted, like Hippocrates, upon the importance of personal observation of conditions and the rational interpretation of the symptoms of disease and its treatment. He was the first to put forward the idea that the processes of physical life are chemical in their nature, and that, therefore, we must look to chemistry for our remedies for the cure of disease.

After a number of years of this strenuous and exciting life, he tried once more to settle down, in Salzburg, Germany, but this quieter period was short, for he died there in 1541, railing against traditional knowledge and false dogmas to the last. A monument was erected to his memory, in that city, in 1752.

In forming an estimate of the place which Paracelsus should occupy in the history of Medicine, there is a tendency to lay too much stress upon his personal foibles and his ideas about alchemy, thaumaturgy, and the like, though some of his occult researches may, in the long run, prove to be his most important contributions to human knowledge.

We must not forget that he wrote *Chirurgia Magna*, a practical treatise on surgery; introduced mercury for the treatment of syphilis; rescued therapeutics from the realm of magic; was the first to recognize the relation between goiter and cretinism; preached asepsis, as then known; and popularized the use of laudanum, lead, sulphur, iron, arsenic, copper, and of tinctures and alcoholic extracts. His complete works, published in 1589, filled ten volumes.

In the light of present knowledge we must place Paracelsus among the great minds who made possible the beginnings of the science of Medicine, as we now know it.

You can hardly make a friend in a year, but you can easily offend one in an hour.—Chinese Proverb.

Dignity is something that can't be preserved in alcohol.—*Let's Go*.

Birth Control Marches

WITH two States (North and South Carolina) openly and officially including birth control instruction as part of their regular public health services; two more actually inaugurating a similar plan, though they are not yet ready to announce the fact officially; and 169 of the 566 birth control clinics

in the United States functioning in public health quarters, while 226 more receive all or a part of their financial support from tax funds, the march toward the inclusion of this vitally necessary and truly civilized service as an important part of all public welfare activities is well begun.

Moreover, more than half of the Negro physicians graduated in this country are given regular instruction in the technics of contraception, as a part of their course, at Meharry Medical College, Nashville, and are thus prepared to pass on this knowledge to the members of their race, who need it so urgently.

At the meeting of the National Y.W.C.A., last April, recommendation was made for "the dissemination of birth control information through public and private clinics, under authorized medical direction."

In the face of this encouraging activity, two of our states (one of which is rather smug about its "culture") still hold a medieval attitude in regard to planned parenthood. The physicians of Massachusetts and Connecticut, who now find themselves liable to be sent to jail if they give a patient advice regarding contraception, should be making strenuous effort to break their shackles—and probably are doing so.

Since this life-saving, eugenic, and highly humanitarian field of educational effort is now so well on its way to becoming a regular and "respectable" part of our national life, those physicians who are uninformed or are refusing to do their part in this work will wake up some bright morning and find that they are so far behind the band-wagon that they can never catch up. Those who get in the way of the procession when Progress is marching are apt to find themselves in a decidedly uncomfortable position, one of these days.

Knowledge is not obtained by rejecting embarrassing data.—WALTER C. ALVAREZ.

Cooperate and Contribute

THAT well known psychologist and psychiatrist, the late Dr. Alfred Adler, originator of that overworked expression, "inferiority complex," in his interesting book, "What Life Should Mean to You," declared that the standard and index of a man's value, to his community and to the world, is his ability to *cooperate* and *contribute*.

Cooperation is a two-handed game, but true contributions come out of the man himself, with no outside help, and the sooner a man begins to contribute *something*, whether it be large or small, to the world's store of knowledge, beauty, happiness, or any other worthy thing or quality, the sooner he will find those with whom he can cooperate and who can cooperate with him.

CLINICAL MEDICINE wants to be the cooperative helper and friend of every one of its readers, but we can't do it alone; you must do your part by *contributing* something. It need not be a long formal article, but just some little professional trick with drugs or a machine, that you have discovered for yourself, in your daily work, and

that would be helpful to other doctors if they knew about it; or perhaps a hobby that has proved profitable or highly enjoyable; or ideas you have picked up at a medical meeting; or pictures of yourself, your confreres, or some bit of medical news of wide interest. Whatever it is, jot it down and send it along to CLINICAL MEDICINE—read Dr. Lake's article on "Medical Writing," in our August issue, on page 275, first; but if you *won't* take the time to do it, send in your material anyway, and if it really has any sound basis we'll give it any editorial attention it needs and use it, over your name, of course.

Then there's the *Seminar*—a real postgraduate consultation class. Get in the habit of writing out your solutions of *all* problems *promptly*. It will give you a chance to exercise your clinical acuity, as well as your literary talents. What if you do miss the question now and then? That's a heap better than being off the track when a real patient's life is at stake—and you'll have plenty of company. If you don't like the problems we publish, we *dare* you to send some of your own that are *better*. The more men take part in these discussions, the livelier they will be for everybody, including *you*.

Start contributing ("operating") and see how we'll co-operate, and what real pleasure and profit you'll find in making this really *your* journal, by taking a hand in the construction of it.

Send *something* today or tomorrow, and get the habit!



The wise will not be too busy, and those who are too busy cannot be wise.—LIN YUTANG.



Impersonal Thinking

PERHAPS it is not astonishing that most human beings should look out upon the world and the universe through the more or less low-powered telescopes of their own personalities. To an overwhelming majority of people, their physical bodies, their immediate environment, and the affairs of their business and pleasure are the only things in life which make a sufficiently compelling impression upon their consciousness to be called "real" for them.

It is true that the environment of the twentieth century man has been vastly enlarged by the development of swift and reasonably cheap transportation, which has taken place during the past few decades; but has his emotional and mental vision increased its scope proportionately? There are many signs which suggest that this has not happened, to any great extent.

Breadth of outlook has never been a necessary corollary of enlarged physical opportunities. The "world" of Socrates and Plato consisted of a small area of land around the Mediterranean Sea; but their minds and their souls reached out, in spite of what we would, today, consider the very limited field of their knowledge, and grasped the

great, basic principles which sustain, animate, and govern the cosmos.

So long as a man thinks of every bit of information which reaches him, solely in relation to himself and his personal needs and welfare, thus long will he fail to appreciate the great scheme of which we are all a part and to orient himself in it, finding, thereby, that equanimity which, alone, leads to happiness and peace.

Why should strong men have risked and lost their lives in searching for the polar axes of our Earth? Those frigid regions will probably never be of any practical value to mankind. Why should a chemist spend his best years in the discovery of some rare element which, so far as can be foreseen, will never have any commercial possibilities? Why should a Dunne, a Millikan, or a Compton bend his powerful intellect to the formulation of a theory which not one man in thousands, of this generation, will be able to understand, even if he tries? Serialism (or even Relativity), in its larger aspects, can have little presently-conceivable effect upon the daily, personal life of any considerable number of human beings.

And, yet, under our veneer of materialistic practicality, something within us vibrates to the fundamental realities, for we find our hearts thrilling and our minds quickening to the stimulus of some great deed, whose connotations we would be wholly unable to formulate in words.

It is not the phenomenal fact that a new planet has been discovered in our Solar System or that Byrd has been to both poles that matters, permanently. The enduring triumph is that human powers and faculties have been developed, even in a few individuals, to such an extent as to make such feats possible. What one man can do, today, many men will be able to accomplish a generation hence and, conceivably, all men in the course of a few centuries or millennia.

This universe—even this world—was not made for man. *Homo sapiens* is, no doubt, the present high point of the evolutionary scheme and, to just the extent to which he has been able to learn the laws of Nature and willing to accommodate himself to them, he has come to utilize the great forces and the other beings which are present with him on this circling spheroid. But that does not mean that all these things were placed here for his profit and pleasure. He exists among them comfortably only as he accommodates his activities to their presence.

The wild beast, the insect, the weed, the hurricane, the frost, the drought and many other matters, looked upon by most people as merely nuisances or as disasters, may be, and probably are, as definitely a part of some great Plan as we ourselves are or as are the horse, the cow, the domesticated vegetables and fruits, the useful minerals, and all the other things which men have found means to utilize. These beings live to an end of their own, and these primal forces operate to the accomplishment of great purposes which are quite

apart from the needs and comfort of human beings and which we can only dimly comprehend by making strenuous intellectual efforts.

Those who are able to divorce their thinking from the narrowly individual affairs of their daily lives, and launch out, fearlessly, upon the largely uncharted sea of impersonal thought, will find that the waves of circumstances which rock their ships of life so tempestuously will be stilled and that they will sail into a harbor of peace, where the prospect is boundless and eternally fascinating. They will find themselves inhabitants, not of Main Street, Middletown, but of the Solar System, of the Cosmos; and their associates will not be Thomas, Richard, and Henry, who live across the street, but the great ones of all times, past and to come.



Lacking imagination the human mind is a fort without a gun; an observatory without a telescope.—GLEN BUCK.



Training Police in First Aid Care

In its program to reduce traffic fatalities, the American Red Cross has trained police highway patrols in 17 states and designated their patrol cars as Red Cross Mobile Emergency First Aid Units. These units are designated only when they carry essential equipment for giving emergency care to the injured, including splints, and when drivers or crews are qualified to give intelligent care to accident victims.

A recent tabulation by Harold F. Enlows, national director of Red Cross First Aid, showed that a total of 1,247 mobile units had been set

up among the police since the program was inaugurated five years ago. To qualify, policemen undergo extensive training, by Red Cross instructors, in the newest methods of caring for the injured.

In addition to state police, the Red Cross has trained drivers of large fleets of trucks to meet highway emergencies, as well as employees of gas stations and other roadside businesses. Nearly

6,000 highway first aid stations and mobile units have been set up in all states. First aid, given intelligently at the scene of the accident, may save an injured person's life or prevent permanent injury. Hasty and unintelligent handling of an accident victim often results in death or permanent crippling. This first aid training is *not* intended to replace, but to supplement, the services of physicians.

Stations and mobile units are operated on a voluntary basis. Red Cross chapters give the training without cost and see to it that first aid equipment meets their requirements. States having Red Cross-trained highway patrols are Delaware, Florida, Georgia, Maine, New Hampshire, Ohio, South Carolina, West Virginia, Arkansas, Iowa, Missouri, Montana, Texas, Wyoming, Arizona, Idaho, and Wash-

ington. How about your state?

First aid instruction is but one of many Red Cross services to our people, and all normal Red Cross work is financed from low annual membership dues. Everyone who joins a local chapter during the yearly roll call helps to maintain these community and national services. Millions of new members are needed this year. The membership campaign begins Nov. 11 and ends Nov. 30.

NEXT MONTH

Dr. H. E. Billig, of Los Angeles, Calif., will explain the importance of thyroid medication in pregnant women and young children, with illustrative photographs and diagrams.

Dr. Bessie G. Wiesstein, of Cleveland, Ohio, will report the results of treating senile vaginitis (pruritus and kraurosis vulvae) with estrogenic substances.

Dr. Ralph L. Gorrell, of Clanton, Ia., will tell why he treats "tired" people with an adrenal cortex preparation, given by mouth, and how this treatment has worked, in his hands.

COMING SOON

"Spontaneous Rupture of the Gallbladder," by Lawrence Greeley Brown, M.D., Elizabeth, N. J.

"Feeding Problems in Children," by F. A. Wier, M.D., Racine, Wis.

BIBLIOLATRY*

*Uncaged by glass and scorning regiments
In uniform, my friendly gods stand round
With understanding sweet and counsel sound,
Ready to humor me in all my bent.*

*Builders of thought, companions of my soul,
I give you thanks and reverence profound.
You light the way that leads me to my goal.*

G. B. L.

*Step ladder, April, 1940.

★ *Leading*



Articles ★

The Hydrogel Treatment of Colonic Stasis

By

IRWIN W. FRIEDBERG, M.D., New York City

The problem of constipation confronts every active clinician almost daily, and cathartics are too easy a solution.

Dr. Friedberg presents scientific evidence regarding this ubiquitous condition and a promising method of treating it physiologically.

CONSTIPATION is the ugly duckling of medicine. No other important symptom is so ill defined or so casually treated.

Fantus¹ properly suggests the term chronic colonic stasis; Alvarez² also emphasizes the fact that the stagnation is always in the colon; and Kast³ contributes the concept that the causes are mainly functional. The small intestine takes no part in constipation, "... even chronic obstruction of the small intestine gives rise to diarrhea, not to constipation"⁴.

In attempting a definition of constipation, the roentgenologic criteria⁵ must be used with caution; the residues must not be overvalued;⁶ the dilatation of the respective colon section must be considered, rather than hypotonia of the colon; and, finally, the emptying time must be evaluated correctly.

In place of the old concept of spastic and atonic types, a newer viewpoint prevails, that the atonic and spastic conditions are not etiologic features, but merely characteristics of different types of patients.

Before Adolph Schmidt⁷, all authors resorted to one fundamental explanation of constipation. They postulated a damage to the motor mechanism of the colon, either of the nerves or of the musculature. Careful observations convinced Schmidt that this explanation does not suffice for many cases, especially of the atonic type. He regarded an excessive utilization of the foods as the primary factor resulting in the formation of too-little or too-hard feces. The deficient motor function of the colon, he regarded as a secondary factor, and stated:

"If the food is capable of entire digestion and absorption, the amount of feces formed is limited to that produced by the intestinal wall itself. The small bulk exercises very little stimulating effect on the intestine, and the movements of the latter will, therefore, tend to be sluggish. ... It is probable that the constipation, which is so common a disorder in civilized communities, is due as much to the refinement in the preparation of the food as to the prevalence of seden-

tary occupations. . . . The current belief emphasizes the mechanical distention of the colon by bulky food as the stimulus which prompts evacuation⁸."

Thus, Olmsted and Williams, recently, seem to confirm Schmidt's earlier hypothesis.

Causes of Constipation

In delving further into the causes of constipation, we follow the general outline of Einhorn⁹:

1.—*Nervousness*: Dunin¹⁰ is credited with the sedative approach. He felt that psychic tension played a large part, especially in city dwellers. This, Fantus¹ feels, affects especially the descending colon. Atony in this part would suggest some organic obstruction, while atony is the usual finding in the more proximal colon.

2.—*Medication*: Classically, Einhorn argues: "Opium, to relieve excessive movements, or castor oil, to induce them, will, in time, undermine the intestinal function." Upham¹¹ and Paul¹² similarly condemn drugs as initiating a vicious cycle, and Fantus succinctly states: "In my opinion, one of the most common sources of constipation is the pernicious habit of resorting to drugs."

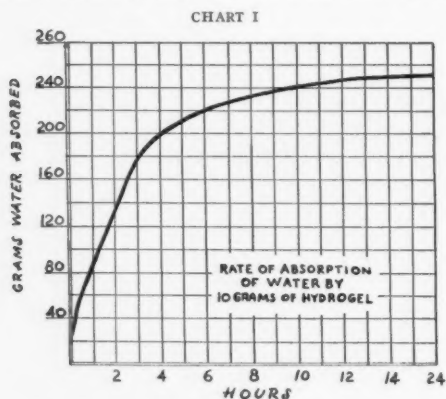
Such drug treatment seems especially irrational in lower-bowel stasis, as the medications tend to upset the intestine all the way down. In stasis in the cecum and the ascending and transverse colon (the proximal lower bowel), it is advisable to restrict the diet temporarily and attempt to keep the bowel contents liquid⁶. In spasm of the descending colon, resulting reflexly from decomposing intestinal contents, we should avoid aggravation by introducing more food. We try to unlock the spasm. In both, we should avoid cathartics and use a laxative diet with as much hemicellulose as possible.

3.—*Dietary Restrictions*: "The simplest cause for constipation," says Kast, "is starvation. Insufficient food, or improper, bland food, particularly if lacking in residual matter, will sooner or later lead to trouble." The constipation of the fussy invalid with a poor appetite belongs in this group.

What part the lack of vitamins plays, is not yet entirely clear. Some authors feel that the decreased evacuation is due to loss of appetite as much as to an altered condition in the alimentary tract¹³. Others feel that the deficiency itself causes a hypomotility¹⁴.

4.—*Lack of Fluids*: One of the principal uses of the colon is to return water to the body, and Alvarez² finds that, when there is a great need for water in the tissues, the colonic mucosa becomes

even more efficient as a drying agent. Upham also accuses an insufficient intake of water, as do Murray¹⁵ and Schmidt. One of the advantages of bulky food undoubtedly derives from this fact. Food residues, besides giving their own bulk, carry down



much water. One may conceive of a reversible swelling and exudation of the mucilaginous mass as the hydrogel travels along the intestinal tract, such as takes place in vitro, as graphically illustrated in Chart I.

5.—*Congenital Weakness of Muscles:* This theory of Nothnagel's predicates an abnormally thin muscularis coli, and probably accounts for a relatively small number of cases.

6.—*Abnormal Positions, such as Ptosis:* Kinks of the bowel (Lane's kinks, etc.) are minimized by Leichtenstern, the great German clinician, as a factor in constipation, and he confirms his opinion with autopsy findings.

7.—*The Excessive Utilization of Food, due to Increased Absorption:* This theory, first advocated by Adolph Schmidt, and later elaborated by Olmsted and Williams, Bastedo¹⁶, and others, postulates fewer decomposition products, less residue, and, consequently, less peristalsis.

"An effective residue is one which is free from lignin, contains a preponderance of hemicellulose, and is finely divided, so that . . . bacterial action yields a remainder with water-binding properties, insuring a bulky, plastic, easily-evacuated stool¹⁸."

8.—*Coprostasis:* Localized atony in the rectal ampulla is mentioned for completeness.¹⁷

The Clinical Picture

There is a common *modus operandi* in all chronic colonic stasis. Whatever the underlying cause for stasis, the noxious products formed usually result in a distal spasm which, in turn, continues the stasis and thus leads to a vicious cycle.

Whether headaches and lack of appetite, fullness of the abdomen, gaseous distention, etc. are the results of "auto-intoxication," or merely the result of mechanical distention (Hurst)⁴; whether the retrograde pressure (Ivy)¹⁸ is an important factor in gallbladder pathology; and whether mucous colitis is a common sequel to such conditions, is of relatively little importance.

Constipation, if we understand by it "a functional disorder, in which none of the food taken during a day is excreted during the next 48

hours,"¹⁴ must be overcome in order to have a healthy state. The patient presents himself because of *symptoms*, not because of the mechanical changes of atony or spasm. The multiplicity of presumed causes and effects has made constipation a happy hunting ground for self-medication.

Clinically, we may distinguish three types of constipation: That resulting from organic disease; that due to local rectal stasis; and the large and varied group that may be regarded as functional. In the latter group, regardless of the ultimate cause, a decrease in food residue is a common finding. Kast³ believes that he can differentiate the degree of spasticity by finding dry and scybalous, or more moist fecal specimens.

Because of rapid mass movements, by which the entire bowel contents are propelled once or twice daily, and because of the other factors mentioned early in this article, x-ray studies are not unequivocal. They serve merely to eliminate organic lesions or localized rectal stasis, and merely give a clue to the degree of muscle tonus.

Outline of Study

With these physiologic considerations in mind, it was decided to determine the efficacy of hydrogels¹⁹ in inducing daily evacuations and initiating regular rhythm and improved activity of the colon. The importance of bulk had long been stressed by many authorities, who had called attention to the recently introduced epidermal tissue of plantago seeds (psyllium), which has the bulk-giving qualities of bran without its undesirable irritative effect upon the mucosa.* In Europe, this medicament had been known as an aid to elimination for hundreds of years.

Schmidt had originally employed agar-agar^{20, 21}, and reinforced it by the addition of small doses of cascara. Max Einhorn had, similarly, used agar in combination with phenolphthalein. Both reasoned that the bulk-giving quality required assistance which would simulate the degradation products in the bowel. Starling²² comments that the mechanical distention of the colon by bulky foods is a stimulus that prompts evacuation, and calls attention to the fact, already suspected by the earlier workers, that there is a contributory chemical stimulus resulting from the degradation of the hydrogel. This may possibly enhance its usefulness in spasm, where mere mechanical deficiencies do not exist. Carnot and Glenard²³ have even expressed the opinion: "The main factor in increasing the activity of the bowel is the increased blood flow through its muscle."

By incorporating drugs in their smooth medium, the earlier workers also felt assured of their uniform absorption; but Fantus¹ has convincingly pointed out that a bulk product must be efficacious on its own merit, laxatives being an entirely separate consideration. With this conviction I heartily agree, and, for that reason, have selected an unfortified hydrogel, to determine its effects in functional constipation.

A group of 15 patients (12 from the clinic at the Jewish Memorial Hospital and 3 private patients), suffering from chronic constipation, was selected at random and supplied with an unlabeled preparation of the epidermal layer of plantago seeds. Cathartics and constipating foods were avoided

*I am indebted to Serutan Co., Inc., for their cooperation in supplying liberal quantities of the hydrogel, Serutan.



Fig. 1: (Left) Roentgenogram of Case 11, made Jan. 3, 1940, immediately after a barium enema (before hydrogel treatment), showing atony of the colon with practical disappearance of the haustra. (Right) Roentgenogram of same case, under same conditions, made Mar. 19, 1940, after taking hydrogel 76 days, showing improved tonus of the colon.

during the investigation. The unidentified hydrogel was administered in quantities of from $1\frac{1}{2}$ to 2 teaspoonfuls twice a day, stirred in half a glass of water. In some cases, it was advisable to add more fluid. Salty food was advised when the patient had an aversion to liquids. The average duration of treatment was 42 days.

Stimulation of the gastrocolic reflex²² has frequently been suggested as an important factor in overcoming colonic stasis. If that is the case, the hydrogels should be as useful as any other food product. Many believe that it has its greatest application in localized rectal stasis, where the defecation reflex has become diminished. At any rate, no special emphasis was placed upon re-educating the bowel.

Much reliance was placed on the hydroscopic material acting as a sponge²⁴, remembering in addition, the dictum: "Fermentable carbohydrate is a normal stimulus to peristalsis²⁵." The results are outlined in the following report.

Clinical Report

Of the 15 patients, all were white; 13 were women (of whom 10 were housewives, one an office worker, one a clerk, and one was unemployed); and 2 were men (one a clerk and one unemployed).

The ages ran from 27 to 62 years, the average being 46 years.

The duration of the constipation had been less than a year in 6 cases, and "for years" in the other 9 cases (one patient specified the duration as 10, and another as 18 years).

Roentgenologic studies of the colon, made by the courtesy of the x-ray department of the Jewish

Memorial Hospital, showed simple atony in 10 cases; atony with marked ptosis in one case; atony with areas of spasticity in one case; spasticity in one case; diverticulosis of the sigmoid and colon and duodenal ulcer in one case; and normal conditions in one case.

The duration of treatment varied from 14 to 76 days, the average being approximately 42 days.

Other disorders, in addition to constipation, were present in 11 cases (hypertension, cholecystitis, diabetes, syphilis, arthritis, etc.), but in 8 of these they had no bearing on this study and need not be considered. The other 3 cases will be reported in detail presently.

Clinical results: Of the 15 patients, 9 were reported as "improved," with such statements as these: "The bowels formerly moved only after taking Epsom salts, and then there would be no stool for a week, while now there is a stool at least every other day"; "With the hydrogel the bowels moved normally, but without it there is no proper evacuation"; "The patient had taken laxatives for years, but after 38 days of treatment with the hydrogel the bowels move normally without taking any medicament whatever." Figures 1 and 2 show the changes in the roentgenograms which were observed in these cases.

In one case the patient was, clinically, "much improved" after 14 days of treatment with the hydrogel, although there was no change in the roentgenogram.

In one case the clinical report was "much improved," but the patient did not return for a second roentgenogram.

In one case the result was reported as "Excellent" (headaches, gas in the bowels, and abdominal

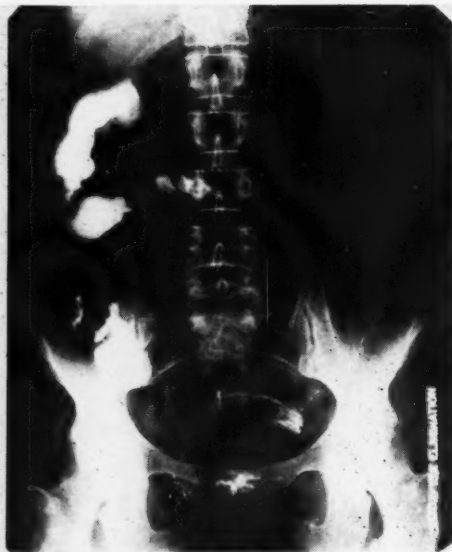


Fig. 2: (Left) Showing retention after evacuation of barium enema Jan. 13, 1940, before hydrogel treatment. (Right) Same case, under same conditions, Mar. 19, 1940, after taking hydrogel 76 days.

pains were relieved almost immediately). This was the case where the first roentgenogram showed "atony with areas of spasticity."

Thus there were definitely good results in 12 of the 15 cases (80 percent).

In the remaining 3 cases (20 percent), the results were reported as "unsatisfactory." These cases will now be reported in detail.

Case Histories

Case 8: An unemployed white woman of 62 years had been constipated for "many years," and was also suffering with pyelitis and colitis. A roentgenogram showed atony and marked ptosis of the colon.

She was treated with the hydrogel for two months, but the results were unsatisfactory, probably because of the inflammatory condition in the colon, and the fact that she had practically no power to give the normal, voluntary muscular reinforcement in the act of defecation.

Case 9: A white housewife, 34 years old, had been constipated for a few weeks, when she was first seen, and also had a rectal fissure. A roentgenogram showed atony of the colon.

She was treated with the hydrogel for 53 days, and although there was some improvement in her bowel movements at first, the result was not satisfactory, because her constipation probably resulted from a reflex spasm of the colon, initiated by the pain in the rectal fissure, and became worse when the latter condition was aggravated.

Case 10: An unemployed white man, 60 years old, had been constipated "for years," and also had a duodenal ulcer. A roentgenogram revealed, in addition, multiple small diverticula of the sigmoid and colon.

He was first given treatment for acute symptoms from the peptic ulcer, and then took the hydrogel for about six weeks. In the beginning he experienced marked relief from the latter

treatment, but his feces were hard and inspissated. The final result was unsatisfactory, perhaps because the duodenal lesion overshadowed the constipation in importance.

Summary

It seems warranted to conclude, even from this small series of cases, that the unfortified hydrogel used in this study, by inducing daily movements and initiating regular colonic rhythm, suggests a practical approach to a vexing problem. With the exception of three cases, the patients who had been taking cathartics for years felt great relief.

The x-ray findings, with due regard for their limitations, indicated increased peristaltic waves.

Cases 8, 9, and 10 amply illustrate Graham's²⁶ dictum, that we must eliminate organic rectal and other intestinal lesions before attempting to treat the accompanying constipation.

The almost uniform clinical improvement in functional constipation is striking and bears eloquent testimony to the concept of the hydrogel "sponge."

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17 East 82d St.

The Treatment of Chronic Leg Ulcers

By

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Chronic leg ulcers have upset the professional reputation of many physicians, so anyone who offers hope of a successful treatment of these stubborn cases (as Dr. Zweigel does), deserves a hearing.

IN any modern vascular clinic, many chronic leg ulcers are seen, but these lesions are intimately related to constitutional diseases, as well as to peripheral vascular conditions.

Recent years have witnessed an unending procession of new ulcer "cures," and reports of conflicting views, following each other in bewildering succession, have resulted in a noticeable decline of confidence in local treatment of the ulcerated area. A cursory review of the medical literature reveals a tendency on the part of investigators to attack the problem of chronic leg ulcer almost exclusively through systemic treatment, with supportive measures.

For instance, De Takats recommends ligation of the veins above ulcers, in conjunction with infection. Schede described his operation, which consisted of extensive division, between ligatures, of the superficial veins above an ulcer. It is interesting to note that Keller, who in 1905 advocated stripping of the saphenous vein, described, in 1924, an ingenious method for obliterating veins by suture. Johnson extensively discussed varices of the lower extremities and suggested removal of the cause of the ulcer by a combination of injections of sclerosing solutions with ligation of the saphenous or incompetent communicating veins.

Several cases of chronic streptococcic ulcers of the skin on the leg have been reported by Goodman, who procured response to systemic treatment with sulphanilamide, following suspension of local treatment of the ulcers. Surgical intervention, in cases of chronic ulceration in the medial malleolar region, associated with congenital hemolytic

jaundice and anemia, has been carried out by Taylor, who recommends splenectomy to obtain regression of the ulcer.

Undoubtedly systemic and supportive measures play an important part in treating those chronic leg ulcers which appear as a complication of such conditions as varicose veins, syphilis, arteriosclerosis, tuberculosis, marked anemia, cardio-renal disease, trauma, and local necrosis of tissues. However, it has been the experience at this dispensary that the course of these ulcers has been almost indefinitely prolonged by inability to cope with the secondary infection, which finds no better portal of entry than an ulcer of long standing. This is especially true of the indigent patients (seen at our clinic), whose living conditions are not hygienic.

With an appreciation of the many differences of opinion among prior investigators, I wish to proceed to a rational examination of the procedure of choice, which has been successfully applied at the Newark City Dispensary.

Types of Ulcer

At this dispensary, patients with chronic leg ulcers have been attending our surgical clinic on an average of at least twice weekly for period of from six months to ten years. An average of between 50 and 75 chronic, infected leg ulcers could be found, on any Monday or Thursday, in our surgical clinic. Many forms of local treatment, including antiseptics, moist dressings, physical therapy, strapping, salves, and Unna's boot, have been attempted in the past ten years. These chronic leg ulcers became a serious problem and a major expense at our Dispensary, but no satisfactory solution to this problem could be found and these patients continued to return again and again, over a period of years, with very little evident local improvement. In some cases the condition became worse with time.



Fig. 1:—Two typical ulcers, which healed under the treatment described. A chronic osteomyelitis was found underlying the ulcer shown at the right.

It was noted, during this prolonged period of observation, that practically all the chronic leg ulcers were secondarily infected, and it was thought that, if the secondary infection could first be eliminated and a stimulating agent applied, probably a good many of these indolent, persistent ulcers could be healed.

With this in mind, a method of procedure was devised and strictly adhered to in a group of 35 chronic leg ulcers selected at random and composed of the common types found in a general city dispensary clinic. The individuals ranged in age from 28 to 73 years, and included members of the colored, white, and yellow races. This group includes Italians, Russians, Poles, Swedes, Chinese, Hungarians, and Americans. There were 15 males and 20 females. Types of ulcers included arteriosclerotic, varicose, hypertensive, anemic, syphilitic, and traumatic, with local necrosis of tissue. The lesions varied in size from 22.8 cm. in length, 11.4 cm. in width, and 1.3 cm. in depth to the smallest, 0.6 cm. in length, 0.6 cm. in width, and 0.3 cm. in depth.

Treatment

Our procedure in the chronic leg ulcer clinic, in all 35 cases, consisted of the following: The patient was examined physically and a routine urine examination and Wassermann test were made. The patient's legs were carefully examined. If a constitutional condition, such as diabetes mellitus, cardio-renal disease, tuberculosis, or overweight was found, the patient was obliged to receive the indicated medical treatment. The condition of the peripheral vascular system in the lower extremities was determined. If varicosities of the small or long saphenous vein were very marked and a Trendelenberg test was positive in one or both legs, unilateral or bilateral saphenous ligation, at one or two points, was advised, in addition to local treatment. In other words, a definite diagnosis of the nature of the chronic leg ulcer was made and any related constitutional condition was properly regarded and treated coincidentally.

Secondary Infection

Our next problem was local treatment. In order to eliminate the secondary infection in all of these

chronic ulcers, and to stimulate healing, the technique of choice was as follows:

For the first 48 to 72 hours, wet dressings of a saturated solution of boric acid were applied. After this, the remaining secondary invaders were "bathed" in a solution of Azochloramid in triacetin, 1:500, for 3 days. Wet dressings of a solution of Azochloramid-saline solution, 1:3,300 (eight tablets to a pint), were applied for the next 4 days. These dressings were repeated for at least four weeks. In two cases a mild, local skin irritation developed around the ulcer.

At the end of 4 weeks of treatment (on the average), a transformation took place in the char-

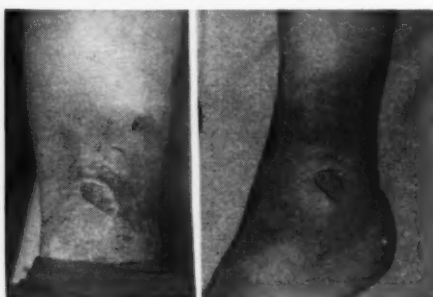


Fig. 2:—Two other typical ulcers, which healed under the treatment described.

acter and appearance of the ulcers. In practically every instance the secondary infection had disappeared, granulation tissue was abundant, and the skin edges were growing in, reducing the size of the ulcer.

A Chinese, about 35 years of age, under anti-syphilitic treatment, with an infected, chronic leg ulcer covering about two-thirds of the medial surface of the right leg, showed complete healing in two months. This was probably our most spectacular result, though healing occurred within 4 weeks in 33 of the 35 cases. Where marked fibrosis of the ulcer borders existed, the areas were stimulated by cauterization with chemically pure silver nitrate.

Summary

At the Newark City Dispensary Clinic, our chronic leg ulcer cases are now treated as just described. These patients visit the Chronic Leg Ulcer Clinic but once a week, so that additional time for working in other clinics is available.

The expense of the leg ulcer clinic has been materially reduced and the unending procession of dejected and discouraged patients is gone.

The use of Azochloramid, in aqueous solution, ointment, and in triacetin 1:500 has materially assisted us in reducing the number of chronic leg ulcers under treatment at the Newark City Dispensary, from a former average of 75, to an average of 10, at the present time.

I wish to thank Dr. Taff and Dr. Theodore Inge, my assistants, for their cooperation in this extended study.

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Treatment of Psychogenic Psychoses with Metrazol Shock

By

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Because the shock treatments of mental disorders are strictly hospital procedures, few physicians will give them personally, but all should know their possibilities, as outlined by Dr. Reznikoff, so that they can refer suitable patients intelligently.

METRAZOL shock therapy has occupied a prominent place in the treatment of mental diseases since 1934, when von Meduna¹, of Budapest, contended that schizophrenia and epilepsy are biologically antagonistic. This theory was later disproved,^{2,3} but the development of the treatment continued rapidly, and although purely empiric, it is now used, not only in the treatment of schizophrenic patients, but also in patients suffering from other psychoses of the so-called psychogenic group.^{4,5}

The introduction of Metrazol shock therapy was followed by both enthusiasm and skepticism. Many papers were published and reports of "recoveries" found their way into the public press. Now, however, the general trend is to regard Metrazol as an aid in hastening improvement⁶ in patients who might achieve a spontaneous remission in time. Our experience with this form of treatment at the Hudson County Hospital for Mental Diseases parallels that of other psychiatric hospitals, in that the possibility of recovery is best when the psychosis is of short duration.⁷

Because this method of treatment is so severe, each patient considered for its use should be given a careful physical, neurologic, and psychiatric examination; also a complete serological check-up, x-ray study of the chest, and an electrocardiographic test.⁸ Patients suffering from marked arteriosclerosis, hypertension, tuberculosis, cardiac diseases, and any organic neurologic disease are considered unsuitable.

Technic

The treatment consists of producing convulsive seizures of grand mal type by intravenous injections of large doses of 10 percent aqueous solution of Metrazol (pentamethylenetetrazol). The seizure usually occurs from 10 to 30 seconds (sometimes later) after the injection and consists of tonic and clonic convulsions, which resemble somewhat the seizures of essential epilepsy, but, on close observation appear to differ in several ways, as was described by Low and his co-workers.^{9,10}

Occasionally, when the dose is not sufficient, a convulsive seizure does not result and the patient becomes restless, excited, and disturbed for the rest of the day; develops extreme fear of further treatment; and at times, if considerable improvement was already achieved, experiences a setback. Therefore, it is more advisable to start with a rather large dose, to avoid these incomplete reactions.

Originally, from 3 to 4 cc. were used for the first injection, depending on the body weight, and if a seizure failed to occur, the dose was increased

from 0.5 to 1 cc. At present, the tendency is to start with a dose of 4 or even 5 cc. of the 10-percent aqueous solution, and raise this dose gradually, even if every injection results in a grand mal seizure. By using this method, we are now able to reduce the number of incomplete reactions to a minimum and, to date, have had several patients in whom each injection of Metrazol resulted in a grand mal seizure. The average maximum dose is usually from 8 to 9 cc. It has also been found that, when the first injection fails to induce a convulsive seizure of grand mal type, another injection can safely be made in from 10 to 20 minutes after the first one.

The drug is injected with the patient fasting, because, in some patients, vomiting takes place, which might result in aspiration of fluid while the patient is semi-conscious. The injection is usually made with a large needle (gauge 18), as fast as possible. The treatment is given two or three times a week.

In some patients improvement is noticed after 5 or 6 injections, and they are given a maximum of 10; while in others, as many as 40 grand mal seizures were produced without any noticeable improvement.

During the convulsion a tongue depressor, covered with gauze, should be introduced between the teeth, to prevent any injury to the tongue and lips.

Complications

While very few deaths have resulted from Metrazol shock therapy, some serious complications have been reported, such as fractures and dislocations. The most frequent complication (dislocation of the lower jaw), which at times occurs during the convulsive seizure, causes practically no trouble, as the jaw usually snaps back into its place or the dislocation is easily reduced by the physician when the convulsion ceases. Recently, a careful check-up by routine x-ray examinations of all patients treated with Metrazol shock revealed a large number of fractures of the spinal vertebrae.^{11,12} There are also cases reported when aspiration of fluid during vomiting resulted in lung abscess and pneumonia.

Attempts are constantly being made to develop a safer method of utilizing the same principle involved in Metrazol convulsive therapy. Several other chemicals have been used, in convulsant doses, to induce seizures in psychotic patients, among which are camphor (which Meduna employed at first), Triazol,^{13,14} picrotoxin,¹⁵ and coriamyrtin.¹⁶

Evidence has been obtained that definite anoxemia¹⁷ of the brain occurs during the shock induced by Metrazol, or the hypoglycemic shock caused by large doses of insulin,¹⁸ which constitutes another chapter in the history of the pharmacotherapy of the psychoses. Alexander and Himwich¹⁹ developed a method of treating patients with psychogenic psychoses by nitrogen inhalation, which also produces cerebral anoxemia.

The following three case histories were taken from the files of over 118 psychotic patients treated with Metrazol shock at the Hudson County Hospital for Mental Diseases, Secaucus, N. J.

Case Histories

Case 1: W. G., a 26-year-old white male, was admitted to the hospital on March 17, 1938, with hallucinations of hearing and vision and paranoid delusions.

Two months prior to his admission he expected to marry, but his aunt, to whom he was very much attached, insisted that he should break the engagement, and he wrote to the girl, saying that he could not marry her. The day after he wrote the letter he was sorry he did it; he went to see the girl and begged her to forgive him and see him again, but she refused. Following this incident, he began to brood, thought people were following him and trying to harm him, and two months later he was brought to our hospital. His case was diagnosed as *schizophrenia*, paranoid type. His physical examination was entirely negative, and other tests revealed no contraindications for Metrazol shock therapy.

He was given 27 injections of Metrazol, which resulted in 20 grand mal seizures. He had gained 23 pounds in weight when the treatment was completed. His condition improved and he was paroled on June 5, 1938. After he had been away from the hospital for more than 15 months, he was doing well.

The case just described is that of a patient whose psychosis was of less than 6 months' duration and in whom a good remission was obtained with this treatment.

The next case is that of a patient who had been psychotic for more than 4 years before treatment was started, and in whom only a very slight improvement had occurred at the completion of the treatment—certainly not sufficient to have the patient paroled.

Case 2: E. G., a 27-year-old single girl, was admitted to our hospital on February 2, 1939, with a history of a psychosis of at least 4 years' duration. She was always a shy, retiring, and seclusive individual, who frequently indulged in day-dreaming and fantasy. Four years previously, she developed the idea that men repairing the road near her home were attempting to attack her. Her condition gradually became worse, and since she had attempted suicide on several occasions, her family decided to have her committed to the mental hospital.

Mental examination, on admission, revealed that the patient was detached from reality and preoccupied with autistic thinking. She displayed grimaces, mannerisms, and oddities; was silly, superficial, and emotionally shallow; had an antagonistic attitude toward her mother and delusions of a sexual nature. Her case was diagnosed as *schizophrenia*, hebephrenic type. Physical examination was entirely negative.

She was given 20 injections of Metrazol, 15 of which resulted in grand mal seizures. Her lower jaw was dislocated on two occasions, but was easily reduced by the physician. During the treatment, a slight improvement was noticed in her behavior, and she showed a little more interest in her surroundings, but as soon as the treatment was discontinued, she relapsed into her former state of detachment. Six months

after completion of the treatment, she did not show any improvement.

Space does not permit citing further case histories of the many other schizophrenic patients treated at this hospital with Metrazol, but I shall report one case of *manic depressive psychosis*, in which complete remission was obtained after a comparatively short period of treatment and hospitalization.

While the prognosis for the first attack of manic depressive psychosis is generally considered good and recovery usually occurs spontaneously, most of our patients in the past, suffering from this psychosis, had spent from 6 months to a year in the hospital, which implies, not only a tremendous expense for the institution, but also a great economic loss to the community. With Metrazol shock therapy, the duration of hospitalization could be greatly reduced in patients of this type. The following case illustrates a situation of this kind:

Case 3: F. W., a 31-year-old white male cabinet maker, was committed to our hospital on January 5, 1939. His mother suffered from *schizophrenia*, paranoid type, was a patient at our hospital for about 16 years, and died 6 months before he was admitted here. One of his sisters is a patient in another hospital, and her case is diagnosed as *schizophrenia*, hebephrenic type.

When the patient was first admitted to our hospital, his wife was in the eighth month of pregnancy. Before his wife became pregnant she worked and contributed her salary towards the support of the family; when she became pregnant she gave up her position and they had to live on his salary. He earned about \$25.00 a week and worried that the child's birth would make supporting the family difficult. He began to think his work was not so good as it might be and that he would be discharged, became greatly depressed, and attempted to commit suicide by jumping into the river. This suicidal attempt brought about his commitment to our hospital.

On admission, the patient showed marked psychomotor retardation, difficulty in thinking, and emotional depression. He looked sad and gloomy, talked in a low, almost inaudible voice, chiefly in monosyllables, and more often did not reply to questions at all. Occasionally tears appeared in his eyes and he complained of feeling very unhappy. Physical examination was entirely negative; serologic laboratory tests were also negative.

He was started on Metrazol therapy on January 25, 1939, and after the third or fourth injection improvement was noticed, and progressed rapidly. He was allowed 12 grand mal seizures, after which he became more alert, and started to participate in the hospital activities provided by the occupational and recreational therapy departments.

When psychiatric interviews were added to the chemotherapy, it was discovered that, since his wife became pregnant, he had worried for fear his child might inherit the mental illness from which his mother and sister suffered. This fear was gradually dispelled during the interviews. Prior to the administration of Metrazol, all attempts to use psychotherapy were futile, because the patient was too confused and inaccessible.

He made a complete recovery by the time his wife gave birth to a baby girl on March 1, 1939. He was allowed several visits at home and, after a month, on April 1, 1939, he was sufficiently well to be paroled. He returned to his former occupation and is now doing well.

Comment

It is obvious that chemical methods alone could not produce lasting recovery in mental illness where emotional and social conflicts play important rôles, but by adopting these measures we might be able to achieve at least a temporary remission in patients previously entirely inaccessible; make use of psychotherapy; and gain insight into the patient's emotional difficulties. Attempts are now being made, in the treatment of mental disorders, to combine shock therapy with occupational and recreational therapy, and especially psychotherapy.

It is of the utmost importance that the presence of mental illness be recognized, by the general practitioner and family physician, at the earliest possible stage, since the treatment could then be administered before the disease has advanced too far, and the possibility of recovery would be much greater. There is no doubt that these physicians have a better opportunity to study these patients in the early stages of mental illness than do the physicians in psychiatric institutions, since many of the patients are mentally ill for a number of years before they are committed.

In conclusion, I would like to emphasize the fact, that, although many theories, both psychologic and organic, have been offered to explain the mechanism involved in Metrazol shock therapy, none is considered sound enough to be accepted by the majority of psychiatrists, and the shock treatment is still being used on a purely empiric basis. Because it is applicable both in schizophrenia and manic depressive psychoses, and even in severe cases of psychoneuroses, it cannot be regarded in any way as "specific therapy."

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Hudson County Hosp. for Ment. Dis.

HERE AND NOW

What we think today, and where we stand, depends upon our knowledge of the world and our total philosophy of life. The time for debate is past; the roll of ultimate convictions is being called. . . . Each stands now on what he knows.—W. J. CAMERON.

THE SECRET OF HAPPINESS

If thou workest at that which is before thee, following right reason seriously, vigorously, calmly, without allowing anything else to distract thee, but keeping thy divine part pure, as if thou shouldst be bound to give it back immediately; if thou holdest to this, expecting nothing, fearing nothing, but satisfied with thy present activity according to nature, and with heroic truth in every word and sound which thou utterest, thou wilt live happy. And there is no man who is able to prevent this.—MARCUS AURELIUS ANTONINUS.

SELF CONFIDENCE

The longer a physician has practiced, the more he depends upon his own observations and the less he depends upon those of others.—Vitamin News, Vol. 7, page 124.

Selected Cases from Physical Therapy Practice

By

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Dr. Waddington

Many physicians who have pieces of physical therapy apparatus do not make full use of them for lack of practical suggestions regarding their therapeutic possibilities, such as are given, in a highly practical way, by Dr. Waddington.

THE following cases are selected from among those wherein other methods of therapy had failed, or where physical therapy was so clearly indicated as to leave no other choice available. The results may be duplicated, in similar or allied conditions, by any physician who is well trained and experienced in physical therapy methods.

As the general practitioner is essentially interested in obtaining the best clinical results possible, and is more interested in knowing the agency and the technic indicated than in any scientifically abstruse theories and details of physics, these cases and their treatment are thus presented, in condensed form.

Case 1: A male patient, aged 75 years, had been suffering for many years from an irritable bladder, which caused him to get up hourly, at night, to urinate. He had been advised that nothing but an operation could possibly give him any relief. The prostate was only moderately enlarged.

A prostatic electrode was introduced into the rectum and a metal plate electrode applied over the bladder. Long-wave diathermy was given for 15 minutes, at a mild degree of thermal intensity, and followed, through the same electrodes, with an alternating sinusoidal current for 5 or 10 minutes, with mild contractile impulses, from 30 to 35 per minute. Treatments were repeated 3 times a week for two weeks, then gradually reduced to 2 a week and, finally, to once a week.

Improvement was noted at once. The nocturnal urinary frequency diminished from 8 or 9 to 3 or 4 and, eventually, it was not unusual for him to go from 5 to 7 hours without being awakened.

Case 2: A man, aged 85 years, had an exceedingly hypertrophied prostate, so impinging upon the urethral canal as to necessitate irregular

courses of dilatation and catheterization for the past few years. Only a No. 12 French sound could be passed down to the prostatic obstruction, as one electrode, and a prostatic electrode was placed in the rectum.

Treatment was given as in Case 1, and after 5 minutes with the diathermy current, the sound slipped past the obstruction and could be easily introduced into the bladder. At succeeding treatments, increasingly larger sounds were used as the electrode, until finally attaining the maximum size of a No. 25 F.

Case 3: This woman had been operated upon, six months previously, for a prolapsed uterus, which was removed by the vaginal route. Immediately upon her removal from the hospital, she complained of irregularly recurrent attacks of pain over the appendiceal region. She had resumed her position as a saleswoman in a store and was finding it increasingly difficult to continue on her feet, as the sensitiveness would invariably become worse toward the end of the day. Her surgeon had diagnosed "adhesions" and a probable "chronic appendix," and advised another operation. The patient was extremely constipated and would note some relief from the pain when she was able to evacuate considerable accumulations of gas.

A course of six colonic irrigations, combined with colonic exercise, using about one inch of negative pressure and not more than a quarter-pound of positive pressure, gave almost instantaneous relief and has, apparently, disposed of the presumed necessity for further surgical intervention.

Case 4: A woman, aged 22 years, gave a history of suffering for the past three years from chronic rhinitis and "sinus" trouble. She had been to many specialists without obtaining any marked relief from the more or less constant dropping of mucus into the throat, necessitating frequent and strenuous efforts to expel it, and also requiring several handkerchiefs a day to free the nasal passages from their excessive secretion of thin, watery mucus.

Nasal diathermy treatments were given for 15 minutes, 3 times a week, using a bifurcated, metal nasal electrode, with the other contact made over the forehead with a narrow strip of metal. This was followed with a carbon-arc nasal exposure, using a "C" carbon.

After two weeks of treatment, the improvement was not at all encouraging; the turbinates and contiguous mucosa were swollen and exuding a profuse, watery discharge. Although this technic has been found efficacious in cases of chronic rhinitis, with or without involvement of the maxillary sinuses, it was realized that something more directly localized was required to tone up these extremely relaxed tissues.

One side of the nose was packed with strips of cotton, moistened with a 1-percent solution of zinc sulphate, and this was connected, by a suitable electrode, to the positive pole of the direct cur-

rent. The negative, moist-pad electrode was applied under the forearm on the *corresponding* side. No nasal anesthetic was used; about 5 milliamperes of current were given for 10 minutes.

The patient returned in five days, stating that she was able to breathe without difficulty through the treated orifice. The other nasal passage was then similarly treated, and the patient has experienced so much relief that she has not considered it necessary to return for repetition, although she has expressed her satisfaction by sending other patients somewhat similarly affected.

Case 5: A woman, aged 20 years, had suffered, since the age of 14, from painful menstruation, which had become so severe as to necessitate a day or two in bed at each period. She had been advised to have an "operation." Examination and the history disclosed that the young lady was chronically constipated and had a leukorrheal discharge so profuse as to require the almost constant wearing of a sanitary napkin. The vaginal tissues were relaxed and the uterus slightly prolapsed. The cervical os presented an erosion the size of a silver quarter. There was no marked sensitiveness to pelvic pressure.

A course of colonic irrigations and treatment were at once instituted. The erosion was treated once with zinc ionization; this was subsequently followed by biweekly vaginal treatments with a cotton-covered, carbon electrode, attached to the positive pole of the direct current. About 15 to 20 milliamperes were given for 15 minutes, and followed immediately with a direct current pulsatory wave, 25 contractile impulses per minute, for 10 minutes. A week prior to menstruation, short-wave diathermy was applied, antero-posteriorly, to the lower abdomen; repeated in 2 days; and then daily until menstruation was freely established.

At the end of three months, the young lady was so much improved that she was a walking (as well as vocal) advertisement for the merits of physical therapy, as superior to advocated surgical intervention.

Case 6: A boy, aged 8 years, had a wart, a trifle over $\frac{1}{4}$ inch in diameter and height, involving the extensor aspect of the knuckle of the first finger. He had suffered from this excrescence for over a year, despite the attentions of various superstitious people with "sure cures" and the application of caustics; and, finally, a half-dozen applications of a high-frequency spark, administered by the family physician. All this had induced a not-unnatural revulsion by the young patient against any more "torture."

The boy had to be forcibly restrained while I was applying a small ball electrode, attached unilaterally to the short-wave, high-frequency apparatus, the other electrode being air-spaced, connected to the machine but *unattached* to the patient. The application took only a couple of seconds, and no subsequent attention was required. Both the mother and the, now, friendly patient, wondered why such a simple method was not used by the other doctor.

Case 7: A woman school teacher, had undergone an operation for enlarged tonsils, but had suffered such an alarming hemorrhage after the removal of one tonsil that the surgeon declined to operate further, and advised her never to submit to any more "cutting." The remaining tonsil was so large as to extend almost to the midline of the throat.

No anesthetic was administered. The short-wave, high-frequency current was applied unilaterally, with a small, ball-pointed electrode, being "painted" slowly over the entire tonsil, with a mild current intensity. The patient conducted her classes daily and was entirely relieved of all tonsil tissue after four treatments, spaced two weeks apart.

Case 8: A woman, aged 55 years, had suffered from polyarthritis of the atrophic type for many years. Despite much and varied treatment, including vaccines and spa treatment, she had become all but incapacitated and was suffering from almost constant pain. She was obstinately constipated; there was a cervical erosion that resembled, in size and coloration, a small, over-ripe tomato; chronic cervicitis; and profuse leukorrhea.

A course of colonic treatment was inaugurated, and then the erosion was coagulated, as an office procedure, and the cervicitis treated with zinc ionization. She was given an hour of treatment in an Overland bath cabinet, raising her temperature to 101° F. This treatment was repeated twice a week and then, after a month, given only once a week for three months. General massage was given daily at first, and then less often.

At the end of four months, the patient was still crippled, but was relieved of all pain, and could go about her household duties without the assistance of outside help—which had previously been impossible.

Case 9: A boy, aged 7 years, was afflicted with three patches of ringworm involving the scalp, and one quite loathsomely evident upon one cheek. X-Ray treatment had been advised, but the parents were averse to this somewhat heroic procedure, with its possibilities of sequent temporary baldness.

A 1-percent solution of copper sulphate was applied to each affected area with the positive pole of the direct current, using from 3 to 5 milliamperes for not to exceed 10 minutes. Treatments were given each week for three times, with a resultant eradication of the infection.

Case 10: A Polish girl, aged 17 years, had her entire body covered with eczema, in every stage and type of the disease. The eruption had become increasingly diffuse during the past five years, despite the attentions of many well-known dermatologists. Her face was so disfigured as to bar her from all social enjoyment or any thought of employment. She was found to be allergic to many common foods, but had obtained no relief by abstention from them, as advised by one nationally-recognized skin clinic.

The patient was placed on an extremely restricted diet, and a cod-liver oil ointment was prescribed, to be applied morning and night, daily. General ultraviolet irradiation, with a cold-quartz generator, was applied daily, within a few inches of the skin, irradiating serially every available part of the body. Her menstruation had always been exceedingly scanty and painful, so long-wave diathermy was applied twice a week, antero-posteriorly, to the lower abdomen, and given daily for three days prior to each expected period. There was chronic constipation and an almost constant desire to expel flatus, so a course of twelve colonic irrigations was given and a simple bulk laxative prescribed.

At the end of three months, her menstruation was normal and her complexion was the envy of her formerly sympathetic friends and relatives.

Case 11: A woman, aged 58, who complained of sciatica, had been treated by her family physician for a week, with no improvement. She was stout but had been in good health until the onset of her neuritic attack.

With the patient in a prone position, a long, narrow, metal electrode was placed under the upper part of the thigh, extending three or four inches up on the lower abdomen; a 6 by 8 inch metal electrode was centrally placed over the sciatic notch; and long-wave diathermy was applied for 20 minutes, with a mild degree of thermal intensity. Immediately sequent to this treatment, the upper sciatic electrode was exchanged for a graphite-filled glass electrode, and this was massaged briskly, with frictional movement, over the sciatic area, just enough current being used to induce a pleasant degree of heat and stimulant effluve or sparking. Treatments were given daily for three days; then every other day for a couple of weeks, at the end of which time the patient announced that she was well enough to travel to a distant city to attend her daughter's wedding.

Case 12: A widow, aged 36 years, with one child 3 years old, since the pregnancy had suffered from increasingly profuse menstruation, which had become so aggravated as to require her to wear a sanitary napkin at all times. She was a masseuse, and therefore on her feet for many hours daily. Vaginal examination disclosed a retroverted uterus and relaxed tissues, but nothing else of importance.

A copper electrode was inserted without difficulty into the uterus and connected to the positive pole of the direct current, and 18 milliamperes of current were administered for 12 minutes. The patient experienced only some slight crampy sensation during the treatment, and no untoward effects subsequently. She was told to return within a week, but she reported, six months later, that she had been so much improved as not to require any repetition of the treatment.

Case 13: A man, aged 63, had suffered from constipation and "bleeding piles" for years, but had obstinately refused any operative procedure. There were no large hemorrhoidal masses, but there was a relaxed vascular condition affecting the entire anal canal, and the most gentle manipulation

of the proctoscope elicited considerable bloody oozing.

A copper electrode was covered with a moistened fish-skin membrane and inserted within the anal canal. Only 3 milliamperes of direct current, positive pole, for 5 minutes, could be given at first. The patient returned a week later and expressed his delight at feeling so much more "comfortable," and with the bleeding greatly reduced. A similar treatment, using about 8 milliamperes for 10 minutes, was given. Five days later he received a colonic irrigation; and after a month's alternate treatment with the direct current, was so much improved that he discontinued treatment and has since sent me an occasional patient, to express thereby his satisfaction with non-surgical measures.

Case 14: A man, aged 60 years, had been subject for years to periodic attacks of lumbago. This last, and extremely severe, seizure had ensued after the patient had attempted to do some weeding in his garden.

Negative galvanism was applied to the lumbar muscles for 20 minutes; followed, for 10 minutes, with a pulsatory direct-current wave, giving 30 impulses a minute. At the end of the treatment, a 10-minute massage was administered to the entire back, after which the patient dressed without any particular difficulty. Treatments were given daily for three days, and then three times a week. At the end of the second week, the gentleman announced that he felt better than he had for several years.

While stressing the physical therapy part of treatment, the physician will not neglect to prescribe any indicated adjuvant therapy. The part cannot be greater than the whole, and this latter medical entity comprises judiciously selected physical therapy, medication and, occasionally, surgery.

It has been somewhat incorrectly said: "An optimist is one who looks out in the dark and sees a light which is not there, while a pessimist is one who blows the light out." The physical therapist sees and applies the light of comprehensive and scientific understanding. This light—the light of physical therapy—can brighten the otherwise impenetrable darkness of much needless suffering and disability.

110 Atkinson Avenue.

FREEDOM OF THE MIND

The survival of civilization after the European war will depend largely upon the energy with which the people of the United States will uphold the principles of freedom of the mind which are the basis of life in our Republic.— DR. FRANZ BOAS, in *Think*, Sept., 1940.



ORDER

Science has scored amazing achievements of benefit to man during the past hundred years . . . but there have come to him accompanying responsibilities, some so new and strange as to create confusion.

Order can be restored only by a widespread mutual understanding and more intelligent use of the resources and processes science has put at our disposal.— THOS. J. WATSON, in *Think*, Sept., 1940.

The Injection Treatment of Hernia

Its Scope and Limitation

By

PAUL LAHVIS, M.D., Gowanda, N.Y.

There is still a good deal of uncertainty, in the minds of many medical men, as to what the injection treatment of hernia may be expected to accomplish.

Dr. Lahvis has collected impressive statistics from the literature and makes instructive comparisons of results following the injection and open surgical treatments, with helpful comments upon indications and contraindications.

It is estimated that, of all hernias treated in the United States, less than 5 percent are treated by injection, in spite of the obvious advantages of economy and the absence of disability which this method offers.

The reason must be one of three things: The indifference of medical advisors who continue to prefer operation simply because they are more familiar with surgical methods; the difficulty of establishing the indications between surgery and ambulant treatment; or a genuine disbelief in the truthfulness of the claims which the proponents of the method have made. Of these, the last seems to be the most important.

It is obvious that the casual student of the literature on the subject will be impressed by the lack of systematic research. He may have overlooked the importance of those articles which have appeared within the past two years and which, unless some future publication contradicts this statement, may well turn to be classical contributions in the evaluation of hernia therapy.

I am referring to the work done by F. I. Harris and A. S. White, which delves into the subject basically and covers the experimental basis of the method,¹ the essentials of truss fitting,² the relative value of solutions,³ and also gives a definite reply to the question of results in a statistical study of a large number of cases treated under rigid methods of observation and follow-up work for several years.⁴ Most of the other articles written on the subject suffer from the difficulty which individual physicians experience in checking and rechecking their cases over a sufficiently long period of time.

Our present knowledge of hernia treatment by ambulant methods is also based on the experimental and clinical research work of Bratrud,⁵ Rice,⁶ and Wolfe⁷ *et al.* Thus it happens that the early literature is full of enthusiastic reports covering many hundreds of cases, with a recovery rate of nearly 100 percent in unselected cases. No doubt enthusiasm has clouded good judgment, but the same can be stated of many surgeons who are convinced of their own infallibility in hernia surgery, because the recurrent cases usually do not return to their offices.

Conflicting Reports

A sound evaluation of a method, on the basis of existing literature, must also take into consideration those reports, on the basis of case records,

which contradict the majority. Burdick and Coley⁸ report 81 percent of known failures, and only 3 percent of probable cures in their small series of 66 patients. How can this possibly be reconciled with Harris and White's report (on 236 cases) of only 15 percent definite failures? Whose opinion is the reader of these articles to accept as representative of true facts—that of Coley, who flatly rejects the injection treatment as worthless, or that of Harris and White, who accept it as a very valuable addition to hernia therapy?

In a scientific sense, these questions cannot possibly be answered. Fair objection may continue, but there is no reason to assume that the published results of both investigating teams are incorrect. The answer perhaps lies in the experience of the late George McDonald of Fairfield, Illinois who, together with medical-columnist Brady, deserves much personal credit for the revival of the injection treatment of hernia in 1930, and who once told me that, out of every 10 physicians to whom he taught the injection technic, not more than two ever were successful. Many cases which are listed as recurrences should be listed as "insufficiently treated," because they continued to complete cure under further treatment.

In spite of the apparent simplicity of the method, its successful application requires more experience, in varied details, than other seemingly much more complicated procedures. The difficulties of fitting a truss to retain a hernia at the internal ring under all circumstances are unknown to the hernia surgeon. To wear this truss day and night for weeks requires a willingness to cooperate which many patients simply do not have. Good injection technic and the ability of the operator to detect the weak spots before the patient is released are absolutely necessary. Inability to coordinate these factors spells failure, and many successful protagonists of the injection method do not hesitate to admit the difficulties and poor results which they had in their early cases.

Another factor which impells me to accept the figures of Harris and White *et al.*, and not those of Coley, as representative of the true status, is the rule of majority opinion.

In a short compilation of results in well observed cases Watson reports:⁹

Larson:—137 hernias injected, with 93.5 percent cured.

Wyss:—3,038 hernias injected, with 91 percent cured.

Quillan:—recurrences less than 4 percent.

Wollerman: 2,949 hernias injected, with 94 percent cure.

Bratrud reports 4 percent of recurrences after injection, and 17 percent following surgery.

Girard:—190 hernias injected, with 1 failure.

McMillan:—200 hernias injected, with an 8 percent recurrence rate.

Watson himself, in a series of 300 patients, reported 94 percent of small, indirect, inguinal hernias cured.

It is always interesting to observe the astonish-

ment of the operating surgeon when confronted with hernia statistics, as his own experience is terminated with the discharge of the cured patient from the hospital, and he cannot believe that fully 15 to 30 percent recur sooner or later. Here is a summary of surgical results from Watson:⁹

Grace and Johnson: In 125 patients with recurrent inguinal hernia, in patients over 50 years of age, they found indirect hernia, 30 percent recurrence; direct hernia, 38 percent recurrence.

Hospital for Ruptured and Crippled: In 659 patients over 50 years of age, operated upon at the Hospital for Ruptured and Crippled, there were 170 recurrences, or 25.8 percent.

Schwartz:—207 patients, with 5.3 percent recurrence.

Rickett:—6,027 patients reported, with 5.58 percent recurrence.

Burdick, Gillespie, and Higinbotham (1937) report on fascial suture operations at the Hospital for Ruptured and Crippled: In 1,485 operations, on 1,092 patients, there were 25 operative deaths. The percentage of recurrence following the use of autogenous fascial sutures was 27.7; 28.3 percent after the use of homologous fascia; and 35.5 percent following the use of ox-fascia sutures.

The percentage of recurrence in direct hernia operations is from 10 to 20 percent in the hands of the most experienced operators, and many surgeons report it to be between 25 and 50 percent.

Unfavorable and Favorable Conditions

Thorough understanding of the actual results following hernia surgery makes the injection statistics much more palatable. Nevertheless, it should be re-emphasized that injection therapy cannot supplant surgery entirely, for some very definite reasons.

First: The sliding and otherwise adherent and irreducible hernia always will require surgical therapeutic help.

Second: Some patients, who are otherwise eligible for injection treatment, prefer hospitalization. This includes those who are unwilling to wear a truss for a number of weeks, and those who prefer to take advantage of disability privileges to which they are entitled under insurance contracts.

Third: Only a relatively small number of physicians at present have the experience necessary for successful injection treatment. It is generally agreed that the injection treatment, given by an inexperienced physician, is a useless procedure with a negligible percentage of cures.

On the other hand, other factors favor the injection treatment, in comparison with surgery:

First: Its safety. No deaths are reported in cases where the rules of good practice have been observed. (Surgery reports from 1/2 to 2 1/2 percent operative mortality.)

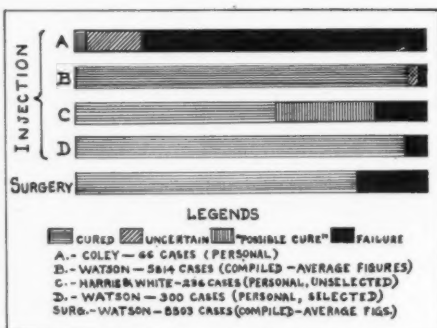
Second: Its convenience for patients who want to avoid hospitalization.

Third: Its economy. This is best illustrated by the experience of the Workmen's Compensation insurance carriers, who spend an average of from \$300.00 to \$400.00 a case for completion of a surgical cure, and about \$125.00 for injection therapy.

The analysis of Harris and White's work is extremely illuminating. Of 236 unselected cases treated, they obtained 15.3 percent known failures; 27.9 percent "possible cures"; and 56.8 percent known cures. A breakdown of their cases into types reveals, for indirect hernia, 9.3 percent fail-

ures; 9.3 "possible cures"; and 81.4 percent known cures. Umbilical hernias show a record of cures of 100 percent (5 cases reported). However, 66.7 percent of femoral hernias remain definite failures. When further distinction was made between poor and good risks, on general physical and surgical considerations, they obtained, in good risks, 87

GRAPHIC COMPARISON OF RESULTS



percent of cures in pure indirect inguinal hernia, with 13 percent failures; and in poor risks, 53 percent definite cures, with 43 percent still wearing supportive trusses (usually at the patient's wish), and 4 percent definite failures.

The distinction between cures and "possible cures" was first made by these authors. It is of vast importance, because it defines a large number of hernias in which palliative treatment is desired and accepted by the patient. It also explains some misunderstanding on the part of the surgeons, who, by their refusal to let the patient wear some support postoperatively, cause an unnecessarily large percentage of postoperative recurrences.

By "possible cures" Harris and White refer to patients who "are still wearing a truss, either because we advised them to do so or because they do not feel sufficiently secure to go without one. In this group there is no objective evidence of hernial protrusion." In my own experience, this group includes, mainly, cases of poor risk, who are advised of the situation at the time treatment is started, and, of course, some who become "truss conscious" and are afraid to take chances without it.

It is an interesting observation that recent publications have tended to limit the injection treatment to those cases where nearly 100 percent cures can be expected a priori. If this tendency continues and patients are accepted for treatment only if they fulfill the high requirements of the authors, then the method will soon obtain the degree of acclaim to which it is entitled.

Standards of Selection

What can be done when rigid standards of selection are used, is demonstrated by the article of L. E. Hanisch.¹⁰ Of 112 cases which qualified for his selection, 111 are and remain cured. His indications are as follows:

First: Fully-reducible, indirect inguinal hernia, not protruding through the external ring and of not more than 6 months' duration.

Second: Indirect inguinal hernia, regardless of age and size, with very narrow canals.

Third: Fully-reducible, small umbilical hernia (defect less than 1 centimeter in diameter).

Fourth: Fully-reducible, direct inguinal hernia (defect not more than 1.5 cm. in diameter).

Fifth: Recurred operative reducible hernia, with rules similar to primary hernia.

Hanisch states: "If the five cardinal indications above enumerated are adhered to, we shall have better than 99 percent cured by this method of treatment." Search of the existing literature generally agrees with this statement and also with his admonition that many indirect inguinal hernias with large internal rings and large canals will recur within sixty days after the truss is removed.

However, practical experience with the method will have to accept for treatment a large number of cases where only a "possible cure" can be expected. These are the cases of poor risk where the patient prefers the injection treatment with a full knowledge of the doubtful prognosis, but with the expectation that a light support will suffice for permanent retention. While many of these cases will terminate in clinical cure, a frank discussion of the prognostic details will insure the patient's cooperation and the physician's reputation.

If, as a result of careful selection, permanent cures in from 87 to 99 percent of cases can be persistently obtained by experienced workers, then the injection treatment is entitled to much higher consideration than grudging surgeons have conceded. In the light of the absence of any mortality, the surprisingly low number of complications, the economy of the method from the standpoint of direct financial outlay, and the absence of disability, the injection treatment takes a place side by side with the operative repair of hernia. It is difficult to understand the attitude of popular writers like Geza De Takats,¹¹ who entirely overlook these points in their advice to the lay public.

The type of hernias best suited for the injection treatment includes the majority of workmen's compensation cases. In this group, the economic savings for industrial corporations, through a more general use of the injection method, might well run into tens of millions annually. That these savings have not been obtained so far is due partly to the numerical prevalence of experienced surgeons over "injectors," and also to the fact that many physicians without experience are trying their luck at a technic which requires unusual experience and skill for satisfactory completion. To this must be added the rather unsatisfactory method of selection of cases, which was entirely natural until statistical research developed proper methods of evaluation.

Conclusions

Considerable evidence is available which demonstrates that, in properly selected cases, the injection treatment of hernia produces results equivalent and perhaps superior to those obtained by surgery. This evidence is obtained from the

existing medical literature and is based upon a large number of cases which have been followed up for a number of years.

The injection treatment offers from 93 to 99 percent permanent cures in incomplete indirect hernia of short duration, indirect hernia with narrow canals and with a tendency to strangulation, small umbilical hernia, and direct hernia of short duration, with a hernial opening not larger than 1.5 centimeters in diameter.

Recurrence following surgery, in this type of case, is approximately the same as that following injection therapy. This group includes most hernias of recent standing and a majority of cases falling under the Workmen's Compensation Act.

Realization of these advantages would reduce the expense to industry, for the cure of industrial hernia, to approximately one-third of the present figures.

In the group of hernia which does not fall within the strict selection outlined here, cures can be obtained in percentages parallel to, but below, that of surgery.

In cases of known poor risk, where, according to surgical statistics, the permanent recovery rate is from 60 to 80 percent, the injection treatment offers symptomatic relief in the form of "possible cures." In these cases, the hernial opening is closed by a fibrous band, but continuous wearing of some support is indicated.

The injection treatment has not yet obtained the standing to which its results entitle it. This is due to an overcritical attitude by operative surgeons, who are seldom familiar with surgical recurrence rates and particularly not their own. It is also due to the fact that much injecting has been done by inexperienced physicians, who are unaware of the unusual technical difficulties of the method. This is best illustrated by the fact that nearly always the outcome of hernia injection, in the hands of beginners, is failure.

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CONFORMITY AND TRUTH

Not conformity, but truth of your own garnering is the price of admission to the kingdom of Heaven, or to any other Kingdom.—BISHOP GEORGE S. ARUNDALE.

Notes from the A.M.A. Meeting*

Part II

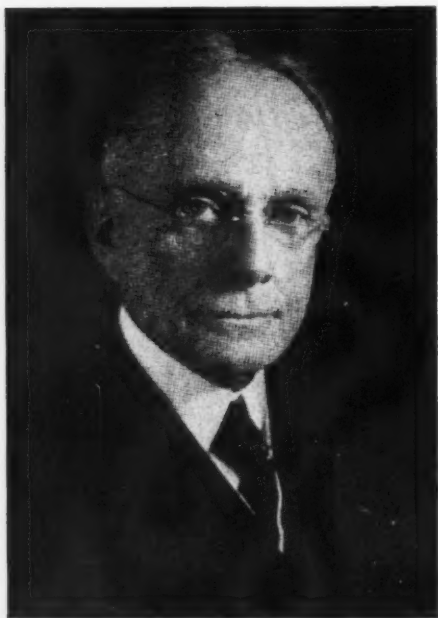
Reported by

GEORGE B. LAKE, M.D., Waukegan, Ill.

SULFANILAMIDE IN SURGICAL INFECTIONS

By John S. Lockwood, M.D., Philadelphia, Pa.

In surgical lesions where the loss of tissue is small and the exudate is serous, the sulphonamides are definitely helpful, but not in more serious cases, where suppuration has taken place, unless the in-



DR. CHEVALIER JACKSON

WHO RECEIVED THE DISTINGUISHED SERVICE AWARD AT THIS MEETING.

fection is on the periphery of the body. In such cases, these drugs lessen the *invasiveness* of the infection and assist in promoting recovery, but they are not a substitute for surgery.

In *gas gangrene*, sulfanilamide, by itself, has little or no effect, while specific antitoxin is known to be reliably effective. After debriding the wound thoroughly, it is wise to give sulfanilamide *along with* antitoxin. Best of all, minimize the incidence of gas gangrene by handling all wounds *gently*.

As a *prophylactic* against infection, in *compound fractures* and other serious injuries, sulfanilamide is helpful; but do not give it promiscuously in minor injuries. It may cause *motor incoordination*, and for this reason, *no one should attempt to operate any machine while taking this or similar drugs*.

*This is the second and last installment of a two-part report.

The *local application* of crystalline sulfanilamide in severe wounds, after debridement, may reinforce its oral administration. This drug is most effective in streptococcal infections and for prophylaxis.

In *pneumonia*, sulfamethylthiazole or sulfapyridine is the drug of choice, and should be given in 6 doses of from 6 to 12 Gm. each on the first day, and then gradually reduced, stopping the medication entirely on the fifth day if the patient's lungs are clear. If not, the treatment should be continued, with relatively small doses, for several more days.

In *diffuse cellulitis* and *lymphangitis*, give sulfanilamide for *prophylaxis*, using *full doses* for the first 48 hours; then reduce the doses and continue for 7 days. *Non-operative* surgical measures should also be instituted.

In *septicemia*, give full doses of sulfanilamide for 48 hours; drain all foci of infection; and give small, frequent blood transfusions.

Sulfanilamide is effective in infections of *serous* and *synovial cavities*. Give it in *empyema*, if the discharge is serous. If pus has formed, *operate*, and then give the drug with the reasonable hope that it will shorten the period of drainage.

SULFONAMIDES IN PEDIATRICS

By Benjamin W. Carey, M.D., Detroit, Mich.

Sulfanilamide is important in treating the diseases of childhood, especially as a prophylactic against serious complications in streptococcus infections (particularly those with *S. hemolyticus*) in such conditions as pharyngitis and tonsillitis.

In *erysipelas* and *septicemia*, the effects of this drug are dramatic; in *scarlet fever* it should be used along with antitoxin or convalescent serum, and also in *epidemic meningitis* and *peritonitis*, where the effects of sulfanilamide alone are not so reliable. In *osteomyelitis* its effects are irregular and surgical treatment is often necessary, as it is also in *peritonitis*.

In *Streptococcus viridans* infections, the effects of sulfapyridine are irregular and sulfathiazole may be more helpful; but this latter drug should not be used in *pneumococcus meningitis*, as it does not enter the spinal fluid. In these cases, specific antiserum should be given intraspinally.

In *gonococcus infections of the eye*, sulfapyridine gives good results, especially in shortening the period of treatment, but not in vaginal infections, where *estrogenic hormone* treatment works better. In *staphylococcus infections*, only sulfathiazole is helpful, and then the results are not dramatic.

In *urinary infections with B. coli* and *B. proteus*, sulfapyridine is helpful, but not in those due to other organisms. It is useless in brucellosis, typhoid, dysentery, rheumatic fever, diphtheria, and virus diseases (colds, measles, etc.).

The best way to give it is by *mouth* (though it may be given by rectum, in special cases), and the dose should be figured at $\frac{1}{2}$ grain (32 mg.) per pound of body weight, but never giving more than 60 grains (4 gm.) a day, which should bring the blood concentration of the drug to from 8 to 12 mg. percent; then the *maintenance dose* of sulfa-

nilamide should be from 1 to 1-8/10 grains (64 to 115 mg.) per pound per day, given in 6 doses. When giving sulfapyridine or sulfathiazole, the initial dose should be $\frac{1}{4}$ grain (16 mg.) per pound (maximum, 45 grains—3 Gm.—a day), and the maintenance dose from 1 to $1\frac{1}{2}$ grains (64 to 96 mg.) per pound per day, given in from 4 to 6 doses. The concentration of these drugs in the blood does not always correspond with the doses given.

When children are taking these doses of the sulfonamides, 90 percent of them show some cyanosis, but it is without significance and disappears as soon as the drug is discontinued or the dose reduced.

TOXIC SYMPTOMS FROM THE SULFONAMIDES*

By Perrin H. Long, M.D., et al, Baltimore, Md.

When a patient is taking any of the sulfonamides, do not suggest vomiting, in words or by bringing in a basin. When it occurs it is not serious. It is rare in children and in adults who are taking sulfathiazole, though dizziness is common.

Psychotic symptoms appear in about 4 patients out of 1,000; neuritis is very rare; cyanosis is rather common, but is not dangerous, and methylene blue, given by mouth will clear it up. It is always well to give sodium bicarbonate along with sulfanilamide.

Fever occurs in about 10 percent of patients taking sulfanilamide or sulfathiazole, and about 4 percent of those taking sulfapyridine, but it is difficult to be sure whether it is the result of the drug or the infection. As a rule, drug fever develops only after 3 or 4 days of treatment.

Rashes of all sorts may appear in patients taking these drugs, especially with sulfapyridine, and sometimes resemble erythema nodosum. Hepatitis is rare, and clears up promptly when the drug is stopped.

Leukopenia is not serious during the first 14 days of sulfonamide treatment, but if these drugs are to be continued for some time, it is well to begin making leukocyte counts about the twelfth day, and make them every other day until the seventy-second day.

Mild hemolytic anemia sometimes appears in those taking sulfanilamide; is rare with sulfapyridine; and has not, so far, been reported with sulfathiazole. If it appears, it generally develops acutely, during the first 3 or 4 days of treatment. If it has not appeared by the seventh day, one need not worry about it. Hematuria rarely or never follows sulfanilamide, but occasionally appears with the other similar drugs.

Conjunctivitis (which looks like pink-eye) and painful joints, are most common in those taking sulfathiazole; gastro-intestinal symptoms, in those taking sulfanilamide.

Stop giving the drug immediately upon the appearance of neuritis, hepatitis, leukopenia, acute hemolytic anemia, anuria, azotemia, or jaundice.

Conclusions

Unremitting clinical observation and control are the key-notes of sulfonamide treatment. Practically all toxic symptoms except leukopenia can be detected clinically, without the assistance of the laboratory.

*This is an especially important and practical presentation.—Ed.

Do not hesitate to give these drugs without laboratory control. During the past year, 300 tons of sulfanilamide have been used, without one death that could be attributed solely to that drug.

See the patient once or twice every day, and question him about symptoms (headache, malaise, and sometimes chills practically always precede serious symptoms; sore throat before leukopenia).

Look at the patient carefully every time you see him. Examine the eyes, the visible mucous membranes (for anemia), the skin (for rashes or jaundice); measure the urine (in cupfuls) and record it every day, and inspect it for hematuria. If you find it, stop the drug at once.

If a patient has ever had severe toxic reactions to the sulfonamides, he is apt to have them earlier and more severely on subsequent occasions. With such a history, give 5 grains and watch closely for 12 hours, before beginning more vigorous treatment.

MECHANISMS OF EMOTIONS IN DISEASE

By Walter C. Alvarez, M.D., F.A.C.P., Rochester, Minn.

One patient out of every three who come to a doctor has no adequate physical basis to account for his symptoms; one out of every six is definitely neurotic; and one out of twelve is mildly insane. Placebos, given for a definite purpose, have a real place in physical diagnosis.

It is difficult to "sell" a patient a diagnosis of neurosis (functional disease); but we must "sell" it to him if we are to do him any good, especially if it cannot be connected with a specific emotional cause. The psyche, all by itself, can cause symptoms of disease. Intelligent, sensible, outwardly calm people, who lead a normal, happy home life and have no specific worries, are often "jittery," due, perhaps, to an unbalance of the endocrine secretions.

The autonomic nervous system has a "thermostat" (to maintain the homeostasis of Cannon) in the hypothalamus (the primitive or animal brain), an organ the size of a dime, which controls the temperature and water balance of the body, and many other "vegetative" functions. The more or less civilized cerebral cortex (the youngest part of the brain) controls the higher centers; but sometimes that control slips, and we relapse, more or less, to the animal level of conduct, as decorticated higher animals revert to the status of the lower ones.

Emotional "storms" come out of the hypothalamic centers (also out of the cortical centers, sometimes) when cortical control is lowered by fatigue, the climacteric, or other conditions. In these cases the temperature, water balance, and other "primitive" functions are often disturbed. The amount of fatigue caused by the loss of one night's sleep may be enough, for example, to upset a pilot to the extent that he would be unfit to take out a ship (and this can be worked out as an allegory).

Insanity or epilepsy may injure the hypothalamic centers just enough so that we get an "insanity equivalent," manifesting through the endocrines. Froelich's syndrome may be of hypothalamic origin. Encephalitis may injure these centers without causing parkinsonism; and other virus diseases may upset them. Barbiturates and morphine aggravate the symptoms in these cases, even when they seem to be needed—as in insomnia. A small cerebral thrombus may cause symptoms.

There is no laboratory test for an unfortunate love affair, a domineering mother-in-law, a clever business competitor, and hundreds of other similar etiologic factors in disease. When the autonomic nerves are stimulated, powerful chemicals—adrenin, choline, etc.—are released at the nerve ends, and produce "real," physiologic symptoms, which, at the moment, are as much out of the patient's control as are those of mumps, malaria, or meningitis.

If somebody put a pint of whiskey into your stomach with a tube, no reasonable person would blame you for being drunk, and you would (or should) have no sense of shame in confessing the symptoms you experienced.

Explain all these matters (and as many more as you know or can find out) to your neurotic patients, and "sell" them a diagnosis of functional disease. Only when you have done that can you begin treating them with the slightest hope of success.

DIAGNOSIS OF HEART FAILURE

By Tinsley R. Harrison, M.D., Nashville, Tenn.

Heart failure may occur forward or backward. If forward, the patient experiences weakness, cardiac syncope, and sudden death; his blood vessels are empty. If backward, he gradually develops general congestion. I shall discuss only congestive heart failure.

In making a diagnosis (and please remember that none of the points I shall mention is specific. We must always *think and differentiate*), the first point is to determine whether or not the patient has heart disease—murmurs, fibrillation, etc. (the books on diagnosis should be consulted for particulars); and the second is whether he has heart failure—evidence of congestion, in the lungs or the general system.

These signs are:

1.—Dyspnea.

A. On effort not sufficient to make the patient tired.

B. Orthopnea.

C. Cardiac asthma.

D. Cheyne-Stokes respiration.

2.—Cough (which also increases the heart failure).

3.—Rales at the lung bases (their presence is helpful in making a diagnosis, but their absence means nothing).

4.—Diminished vital capacity. (This sign must be interpreted, after several tests, made before and after taking digitalis).

Failure of the left side of the heart generally appears before that of the right.

In right-side failure, we find:

1.—Increased venous pressure, with distended veins in both arms and legs.

2.—Edema of dependent parts. (Remember that, in renal albuminuria, the face is edematous, because there is no dyspnea and the patient can lie down).

3.—Enlarged, smooth, and tender liver.

4.—Cyanosis. (This is not constant, but occurs in about 50 percent of cases).

5.—Albuminuria.

6.—Prolonged peripheral circulation time.

Few heart patients with cough produce any sputum, and when they do, it is generally frothy or bloody.

Do not pin your diagnostic faith to any par-

ticular symptom, but consider the entire clinical picture.

THE PREVENTION OF SCARLET FEVER

By Drs. George F. and Gladys Henry Dick, Chicago, Ill.

While injections of the vaccine made from the specific streptococcus of scarlet fever are now the recognized method for developing active immunity to that disease, and of the specific antiserum for producing passive immunity, there are certain patients to whom it is inadvisable, for one reason or another (hemophilia, severe heart lesions, etc.), to give injections, and certain conditions (as in the presence of an epidemic) where the time factor is of great importance.

For these reasons, we have been experimenting for eight years with attempts to work out an immunizing preparation that would be effective and acceptable when given by mouth. First we prepared the toxin in liquid form, but the effective dose was so large that it was impracticable. Next we tried a powder form, but it produced nausea and vomiting too frequently to be acceptable. Finally we have developed a tablet, with an enteric coating, which has caused little or no gastro-intestinal disturbance, and has proved effective in 94.7 percent of the 102 patients of various ages upon whom the experiments were conducted.

We do not recommend, or even suggest, that these tablets should be considered as a general substitute for the recognized hypodermic methods, but feel that they may prove to be distinctly helpful in replacing or supplementing them under certain unusual conditions.

THE MANAGEMENT OF PATIENTS WITH CONGESTIVE HEART FAILURE

By Samuel A. Levine, M.D., F.A.C.P., Boston, Mass.

Correct diagnosis is the first requisite in heart disease and in heart failure (congestive). Do not treat the disease, but only the failure. If the latter is well compensated, treatment is useless, and may be harmful.

Individualize the treatment of every case, and consider all factors, including those that are economic and psychic. I shall consider only the management of patients in an average financial position, no matter what the cause.

The first essential in treatment is rest, in bed, or however is most comfortable for the patient. In the long run, an adequate period of rest will prove to be economically sound. The heart saves about 25,000 beats a day if the patient is in bed or in a chair.

Do not insist on rest in bed, if the patient is more comfortable in a chair. If we make him lie down (especially if he is middle-aged or old), we shift the edema from the legs (where it is harmless) to the lungs and pleura (where it may kill him before drugs can begin to work).

In drug treatment, digitalis is the mainstay in failure, in all conditions. The best form to use is the powdered leaf in pill form, in doses of 1½ grains (96 mg.). This is the least expensive effective preparation (1 to 2½ cents a pill), and this matter is worthy of consideration, as the drug must be taken for a long time.

The doctor must know how much digitalis the patient has been taking previously. If he has had

none, give 4 or 5 pills the first day (perhaps for three or four days), or until physiologic or toxic effects appear; then give one pill a day, for maintenance. Injections of digitalis preparations are rarely needed, except in emergencies.

Begin with a *milk diet* for several days, and then, gradually, let the patient return to his normal diet, omitting or reducing the intake of salt, but *not of water*, of which he should take a normal amount.

Give *no cathartics*; and sedatives only as may be required, especially at night. Morphine is best to relieve dyspnea.

Diuretics (aminophylline and ammonium chloride) should be given to relieve dyspnea (*lung edema*), even when there is no edema in the legs. Aspirate the chest or the belly, if this is required.

Phlebotomy is useful if the veins are distended or if there is pulmonary edema. Most of these patients have more blood than they can circulate comfortably.

Decrease effort of all kinds, including infections, pregnancy, work, excess fat, etc.

Thyrocardiacs recover, under good treatment. *Beri-beri heart* can be cured with vitamin B₁ (thiamin chloride). *Prolonged tachycardia* can cause heart failure, but it can be controlled.

THE TREATMENT OF TETANUS

By Drs. H. I. Vener and A. G. Bower,
Los Angeles, Calif.

Little attempt seems to have been made to standardize the *treatment of tetanus* in general practice, and the various death rates reported run from 50 to 75 percent, tending toward the latter figure, though it may be assumed that most or all of these patients were given antitetanic serum (A.T.S.) and sedatives.

We have worked out a standard method of treatment which, in a considerable group of these cases, has resulted in a corrected death rate of 19 percent.

For diagnosis, we depend chiefly upon the *history*, and disturb the patient as little as possible by examinations.

The convulsions must first be controlled with sedatives (chloral hydrate and bromides, given by mouth, or barbiturates, intravenously, if necessary).

As soon as the patient is sufficiently quiet, we inject 20,000 units of antitetanic serum (which should be kept at room temperature for 24 hours before use, if practicable, to decrease reactions), around and under the wound, if it can be located. Half an hour later, we encircle the limb where the infection occurred, proximal to the wound, with from 40,000 to 50,000 units of A.T.S., given intramuscularly. If the wound can be located (which is not always possible), we incise it, excise all injured tissue, and examine it.

We next make a *cisternal puncture*, remove 10 cc. of cerebrospinal fluid, and inject 20,000 units of A.T.S., immediately following which we begin the intravenous administration of 20,000 units of serum, diluted with physiologic salt solution, by the gravity method.

The objective of treatment is the administration of 200,000 units of A.T.S. within 36 hours, with desensitizing doses daily for several days, until a cure is obtained. Less than this dose is generally ineffective.

Nursing is highly important in these cases, as complications cause many deaths.

CHILD-PARENT RELATIONSHIPS

By Clifford D. Sweet, M.D., et al, Oakland, Calif.

Parents should have and exert *authority* over their children. At all ages, there are things we *like* to do, and things we *must* do, whether we like it or not. *Discipline* is necessary to sound and satisfactory living.

Young parents who handle their children easily get on well together, because they keep their vari-

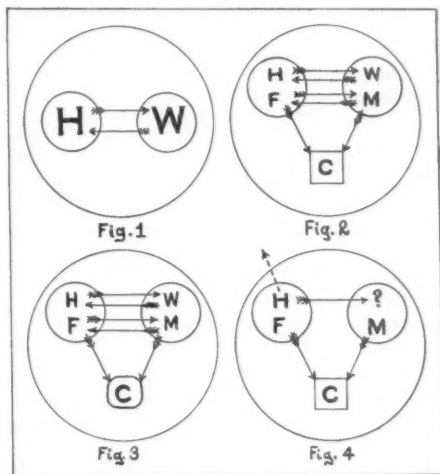


Fig. 1: The husband and wife (represented by circles, to show their smooth adaptation to each other) in a mutual relationship within the family circle.

Fig. 2: A child enters the picture (represented by a square, because it has had no time to make adaptations), and new relationships develop.

Fig. 3: Judicious handling of the child, so that it is trained to fit into the family picture, gradually rounds off its corners.

Fig. 4: The disastrous situation when the mother permits herself to be entirely diverted from the father to the child. The child's corners remain as salient as ever, and the father, cheated of the wife relationship, is apt to seek a substitute outside the family circle, as suggested by the dotted arrow.

ous relationships *balanced*, and vice versa. Trouble with children increases latent selfishness, not only in the child, but also in the parents. And it is not enough merely to look after the *physical* welfare of the child.

When people are first married, they have only one relationship to consider—that of husband and wife (Fig. 1)—and this, of course, should be entirely mutual. When a child is born to them, however, another relationship develops between them (that of father and mother), in addition to the primary one (which *should not be allowed to lapse*), and should also be mutual, even though they now have a third relationship—that of both of them to the child (Fig. 2).

A child needs a *father* in its scheme of things, as well as a mother, to keep its life well balanced, for a number of reasons, one of which is that he can assist the family physician in preventing the mother from developing undue fears for the child's welfare. She must be constantly reminded that her situation is not unique and personal (women have been having babies since the human race began),

and that she need not feel ashamed of being ignorant of some of the things a mother ought to know and of asking and taking advice from those whose studies and experience have qualified them to give it intelligently.

A baby cries to attract attention to its needs, and we should do for it whatever is necessary, but not let it impose its wishes on the family. A regular schedule of feeding, and other matters, helps to teach the child discipline, from its earliest months.

A child resists any change in his routine because he does not like it, and tries to perpetuate what he does like. During sickness or under certain other special conditions, children are pampered, perhaps necessarily, and they like it; so when the necessity is past, they try to perpetuate what they like, but the parents must not permit it.

New foods should be added to the child's diet gradually and without any comment or fuss; and when they have been introduced they should be insisted upon.

Love of parents is not strong in children (whether we like to believe it or not) and parents must be taught to understand and accept this fact, so that they will not expect too much nor appeal frequently to a faculty which has not yet developed, for if they do, results will be disappointing. Remember that it is better to be a lovable human being than the healthiest animal on earth.

A child should be permitted to do as he pleases, unless there is some reason why he should not, and when there is a reason, he must be taught to do as he should, whether he pleases or not. Do not give orders and then revoke them. Impose few prohibitions; but when they are imposed, make them stick. The sooner a child is made to realize that education is steadily following an uphill road, the better.

Parents can be too unselfish. Children are glad and proud to help their elders, and should be given responsibilities in proportion to their abilities;

praised when they do well; treated with patience and understanding when they bungle (as they will, at first); and forced to discharge those duties, if they rebel, always lovingly, but always firmly. All members of a family must be trained to pull their own weight and work and play together.

TOBACCO AND CORONARY DISEASE

By Drs. F. A. Willius and J. P. English,
Rochester, Minn.

In an effort to discover what, if any, relation there is between tobacco smoking and coronary disease, we have studied 4,000 cases, in four groups, all in the same age ranges and with the same sex distribution.

First we considered 1,000 patients with definite coronary disease, and 1,000 who showed no abnormal findings, as to whether they were smokers or non-smokers, and found that the figures were much the same in both groups except in the fifth decade, where the proportion of smokers with coronary disease was slightly higher.

Then we selected 1,000 smokers and 1,000 non-smokers, with the same age and sex distribution, as to whether they did or did not have coronary disease. Again, the figures were much the same, except that there was slightly more coronary disease among the younger smokers than among non-smokers of the same age. But here we must be careful to avoid *post hoc ergo propter hoc* reasoning. Perhaps the persons in this group were nervous individuals who would have been apt to have coronary disease anyway, and who, by reason of their nervousness, would also have been more apt to smoke.

Our conclusions are that tobacco is not an etiologic factor in coronary disease, but that it does have a slight influence upon the course and symptoms of that disorder, if or when it is established. A patient with coronary disease may find that, if he stops smoking (especially cigarettes), his symptoms will be somewhat milder.

THE LEADER

The man who is worthy of being a leader of men will never complain of the stupidity of his helpers, of the ingratitude of mankind, or of the inappreciation of the public. These things are all a part of the great game of life, and to meet them and not go down before them in discouragement and defeat, is the final proof of power.—ELBERT HUBBARD.

SPIRITUAL TRUTHS

The gradual assimilation by mankind of great spiritual truths will alone revolutionize the face of civilization, and ultimately result in a far more effective panacea for evil than the mere tinkering of superficial misery.—H. P. BLAVATSKY.

THE WONDER OF MAN

*Man wonders over the restless sea,
The flowing water,
The sight of the sky,
And forgets that, of all wonders,
Man himself is the most wonderful.*

—ST. AUGUSTINE.

A Living for the Doctor

The Business of Medicine and the Art of Living



Associate Editor: Ralph L. Gorrell, B.S.M., M.D., D.N.B.

Physicians' Art Exhibition

THE American Physicians' Art Association held its Third Annual Exhibition, jointly with the Thirteenth Annual Exhibition of the New York

In this exhibition, 160 physicians were represented by 347 pieces, including paintings in oils and water colors, sculptures, etchings, photographs, pastels, drawings, lithographs, ceramics, textiles, and other forms of artistic expression.

Eight prizes—5 "perpetual" (changing hands each year), and 3 individual (to be kept by the winner)—were offered for competition.

The perpetual trophies are 4-foot cups of gold or silver, and were given to the Association by Hoffman-La Roche, Inc. (for the best oil painting); G. D. Searle & Company (for the best piece of sculpture); John Wyeth & Brother (for the best work in water color); The Winthrop Chemical Company (for the best photograph); and White Laboratories (for the best etching). Dr. Max Thorek, of Chicago, offers an individual trophy each year for what he considers the most artistic entry in any field; this year Dr. Homer Wheelon, of Seattle, Wash., offered a prize for



Fig. 1: "The Joy of Living"*

Physicians' Art Club, at the Belmont Plaza Hotel in New York, concurrently with the meeting of the American Medical Association, last June, and it proved to be a highly successful affair, partly, perhaps, because of the unprecedentedly large attendance at the A.M.A. meeting; partly, because the location of the exhibit was central and easily reached; and partly, because the Association itself is taking shape and developing a personality of its own.

*All cuts through courtesy of Mead Johnson & Co.



Fig. 2: "Chinese Red"

the highest type of creative ability in oils; and another prize was offered to the physician in the New York Metropolitan Area whose work was judged to be the best in the exhibit.

These prizes were awarded respectively to Dr. R. H. Kennicott, of Los Angeles; Dr. A. L. Wolbarst, of New York; Dr. John Groopman, of New York; Dr. J. O. Fitzgerald, Jr., of Richmond, Va.; Dr. Joseph Warkany, of Cincinnati, Ohio; Dr. Yela Brichta, of New York; Dr. W. W. Wright, of West Hartford, Conn.; and Dr. Alfred Braun, of New York. A number of other exhibits received honorable mention.



Fig. 3: "Guide Us in Our Problems"

A special prize of \$25.00 was offered for the best emblem for the Association, and was won by Dr. F. H. Redewill, of San Francisco.

Personally, I enjoyed this exhibition immensely, and spent a good deal of time in the showrooms, and while, in my opinion, the paintings were not of quite such a high average as they were in St. Louis last year, the whole affair was a remarkable demonstration of the fact that professionally successful medical men are also immensely capable and versatile artists, in the most usual acceptance of that term.

I would not for a moment, cast any aspersions upon the taste and judgment of the judges who awarded the prizes, but I did not agree with them in all respects.

To my mind, the most beautiful things in the show were a bronze sculpture entitled "The Joy of Living," by Dr. K. W. Ney, of New York



Fig. 4: "The Wheel of Destiny"

(Fig. 1); a beautiful oblong bas relief of Tagore, by Dr. Hannibal DeBellis, of New York; and a lovely still-life oil painting (though I do not ordinarily care for still-lives), by Dr. C. B. Weinberg, of New York, entitled "Chinese Red" (Fig. 2) and showing, against a background of soft, draped green curtains above, and a red mat below, a red vase, a green jade bowl, a painted plate, and a bronze censer. The color combination and the technical work of the painting compared favorably with those of most professional artists.

Perhaps the most striking and memorable piece in the show was a symbolic poster in oils entitled "Guide Us in our Problems," by Dr. J. L. Jack, of New Haven, Conn. (Fig. 3), a reproduction of which ought to be hung in every operating room in the country. Next to this was the plaster sculpture, "Wheel of Destiny," by Dr. H. F. Strongin, of New York (Fig. 4). Four of the pieces I have mentioned are illustrated here, and I regret our inability to use color reproductions, so that we might show some of the beautiful paintings in a way to do them justice.

Every physician who has a creative avocation or hobby which can be in any way classified as art, or an artistic craft, should become a member of the A.P.A.A., and all who produce objects which are susceptible of being exhibited under these headings should enter their best work for next year's show at Cleveland. The dues of the Association are only \$1.00 a year. Write to Dr. F. H. Redewill, Executive Secretary, 521 Flood Bldg., San Francisco, Calif., for particulars about membership and an application blank.

GEORGE B. LAKE, M.D.

Waukegan, Ill.

★ Notes and Abstracts ★

Mississippi Valley Medical Editors' Association

ON September 25, during the annual meeting of the Mississippi Valley Medical Society at Rock Island, Ill., a group of medical editors from Illinois and Iowa met and organized the Mississippi Valley Medical Editors' Association. The proposed plan of organization is chiefly to exchange experiences in medical writing and editing. It is also hoped that some type of cooperative advertising bureau can be eventually formed in connection with the Association, that would serve smaller publications in the Middle West, in the same manner as the Cooperative Advertising Bureau of the American Medical Association serves the state journals.

Officers were elected at the organization meeting as follows: President, Dr. George B. Lake, Waukegan, Ill., Editor of *Clinical Medicine*; Vice Pres., Dr. James Dunn, of Davenport, Ia., Editor of *Bulletin of the Iowa and Illinois Central District Medical Ass'n.*; and Secretary-Treasurer Dr. Harold Swanberg, of Quincy, Ill., Editor of the *Mississippi Valley Medical Journal*. An Executive Committee was also elected, consisting of Dr. F. J. Cenedella, of Moline, Ill., Editor of *Medical-Dental News of the Quad-Cities*; Dr. C. P. Dyer, of St. Louis, Mo., Editor of the *St. Louis County Medical Society Bulletin*, and Dr. Florence Johnston, of Cedar Rapids, Ia., Editor of the *Linn County Medical Society Bulletin*.

Active membership in the society is open to all ethical physicians, who are members of the American Medical Association, and are interested in medical journalism or writing. The plan of the organizers is to hold an annual meeting each year in connection with the Mississippi Valley Medical Society meeting, so the society will especially appeal to medical journalists and writers from Illinois, Missouri, and Iowa, but is open to all. The membership fee and first year's dues are \$5.00, with annual dues of \$3.00. All joining before January 1, 1941 will be known as charter members and the \$5.00 fee will pay dues to January 1, 1942. Application blanks may be secured from the Secretary, Dr. Harold Swanberg, 209-224 W.C.U. Building, Quincy, Ill.

A Hidden Income Tax

AT present, despite popular belief, we have no old-age pensions. We have only a Social Security Act that *promises* old-age benefits, and these are supposed to be paid for in advance, like life insurance annuities.

But they aren't being paid for in advance, for there is trickery in the camp and the worker is being gyped in the name of security.

When he permits his employer to take one percent from his weekly wage, he thinks he is laying by money for his old age. He thinks the money will accumulate in Washington and, after many years, will be handed back to him in the form of a pension.

But he is merely paying an *income tax*, for his money goes into the general fund, along with other

income taxes, and is *spent as they are* for general purposes.

The workers and their employers have thus paid approximately one billion dollars for old age benefits, and *not one dollar of it has been saved for the future*. It is gone where the woodbine twineth. Not one penny of it will ever be used to pay a pension or old-age benefit.

The government took the money and left in the till an I O U—a simple promise to pay back—a bond. And while it is true that a U.S. government bond is the safest investment in the world, it isn't money. It can be made good only when Congress taxes the people and then appropriates the money to redeem it.

Therefore, when the worker's so-called pension becomes due, the government must collect the money to pay him. It will be done, of course, by taxation, and the *worker will pay his share of the tax*.

Then the worker will say: "Why tax me to raise this money? I paid it once, out of my wages. I laid it by for my old age."

That is the trick in it. The money will be collected twice—once from workers and employers, and again from them and all others to pay back the money spent.

Since it must be collected from everybody when it is due and payable, why pretend that worker and employer are paying it now?—ROBERT QUILLEN, in *Fountain Inn Tribune*.

[The workers who are paying this hidden income tax are not allowed any exemption for dependents, like those who pay the frank income taxes, either, and lots of them don't know what is going on. Perhaps *you*, their family doctor, are the only one who will tell them, so that they can write to their representatives in Congress and say what they think about this maneuver.

The italics in this extract are ours.—Ed.]

Preventing Accidents in the Home

KANSAS City has cut in half the number of children killed in home accidents by advising these measures: (1) painting the bottom cellar step white; (2) putting straps or rope across open windows, so that children cannot fall out; (3) using screw eyes and a rope on the cellar-stairs instead of a hand rail, which is too expensive for many persons; (4) anchoring slipping rugs with mason jar rubbers; (5) using dry goods boxes, padded and painted, as safe pens in which to keep babies; (6) putting tiny bells on poison pill boxes and adhesive tape around all medicine boxes which cannot be locked away from children's reach; (7) using rubber mats in bath tubs and a handrail alongside, to prevent fractured ribs and heads; (8) placing kitchen knives in a wall rack, rather than haphazard in a drawer; (9) keeping sand, in a neat box, handy for use on slippery walks and steps; (10) keeping houses in order (many falls and slips occur because articles are strewn about or something is missing); and (11) turning the handles of cook pots and pans on the stove away from the outside edges, so that adults will not

bump them or children reach them.—*South. Med. & Surg.*, July, 1940.

[Women's clubs, if encouraged, can take up this kind of work and prevent unnecessary injuries and fatalities. Health departments would do well to practice this true *preventive* medicine, rather than muscling in on curative medicine, as they now seem inclined to do.—Ed.]

Responsibility of Officials

OUR officials are trusted to manage and protect our interests and paid enormous salaries for doing it. What excuse have they for failure?

If a Congressman takes public money, he is jailed; if he causes the loss of billions of money and countless lives, he is not even held responsible.

It is not right or just or reasonable. The people have the right to be secure. And Democracy cannot be safe until officials are held responsible for their acts—until the man who accepts a public trust and then, through ignorance or indifference, brings loss and death to his countrymen, is tried and given punishment that matches the evil he has done.

Stupidity is not a crime, but it is a crime to accept a trust under pretense of being competent, and then expose the people to ruin.—ROBERT QUILLEN, in *Fountain Inn Tribune*.

Physician and Patient*

THE doctor must not forget that his patient looks upon him as judge of life and death, and anxiously scrutinizes the glances of his eyes, and the gay or sad features of his countenance, in order to discover his sentence. Is it not a fact that fear, especially of death, anxiety and fright, are deadly poisons, and that they directly paralyze the vital power; while hope and courage are the most efficacious restoratives, frequently surpassing all medicines, nay, without which even the best medicines are unavailing?

The Physician, therefore, must be careful to preserve hope and courage in the patient's mind, represent his case in a favorable light, conceal all danger from him, and the more serious it becomes, show a more cheerful appearance; least of all should he betray uncertainty or irresolution, even though there be cause for doubt. He can guard himself from the suspicion of not having fully appreciated the nature of the case by giving a true description of the patient's situation to the relatives, and, if they be fickle and negligent, by stating it rather darker than lighter. Hence it will appear how blameable is the conduct of those Physicians, who do not hesitate to announce to the sick the danger, even fatality of their situation, and how injudiciously those relatives act, who desire the Physician to do so. To announce death is to give death, which is never the business of him who is employed to save life.—CHRISTOPHER WILLIAM HUFELAND.

I like CLINICAL MEDICINE AND SURGERY very much. It is well worth the price of subscription.—A. G. W., M.D., Pa.

*Written about 100 years ago and as true now as it was then.—Ed.

★ Books ★

Money and Wealth

Adams

GETTING AND SPENDING. The ABC of Economics. By MILDRED ADAMS. New York: The MacMillan Company. 1939. Price, Cloth Bound, \$.60; Paper Bound, \$.25.

IN this small volume (it can be read through in two hours) the author has set forth, in clear, simple language and using homely illustrations (which are illuminated by striking line drawings), all that one really needs to know about money and wealth (which are *not* synonymous) and the four factors which produce them (land, labor, capital, and the enterpriser), in order to understand the fundamentals of the immensely complicated system which we call "Capitalism"—a word which means nothing to most people. Nobody can read this book without being a better citizen, so every voter, especially physicians, ought to read it, and the nominal price makes this possible.

Doctors as Human Beings

DOCTORS IN SHIRT SLEEVES: Musings on Hobbies, Meals, Patients, Sport, and Philosophy. Edited by SIR HENRY BASHFORD. New York: Veritas Press. 1940. Price, \$.250.

WHEN doctors stop doctoring, and let us catch them at it, they are very human fellows, whether they be Britishers, like the writers of these delightful "Musings," or Americans.

Between these covers are the direct, informal, and penetrating words of deeply thoughtful men, which appeared, under the title, "Grains and Scruples," in the *London Lancet* a year or two ago, and have been treasured by those who have had the joy of reading them; and there are few, if any, books which can be more highly recommended for the busy physician's bedside table—or wherever he does his leisure reading. For any thoughtful, understanding, and sympathetic man, it is a big value for the money.

Occult Investigations

Jinarajadasa

OCCULT INVESTIGATIONS. By C. JINARAJADASA, Past Vice-President of The Theosophical Society. Adyar, Madras, India: The Theosophical Publishing House. Sold by The Theosophical Press, Wheaton, Illinois. 1938. Price, \$1.25.

THIS little book presents a direct, simple, first-hand account of the details and conditions of the most important and fundamental work in occult science, especially in occult physics and chemistry. To students of occultism who are familiar with the writings of the two investigators (Leadbeater and Besant), it will prove decidedly interesting.

Lee on the Levee

Cannon

LEE ON THE LEVEE. By RALPH CANNON. New York: The Saravan House. 1940. Price, \$.250.

THIS historical novel of the life of General Robert E. Lee before the Civil War is based upon the best available histories of that period, together with a series of letters written by the Lees to the family of Dr. William Beaumont, of St. Louis, between 1837 and 1840. The part which will chiefly interest physicians is Chapter IV, which contains a dramatic account of the wounding of Alexis St. Martin and of the difficulties under which Dr. Beaumont carried out his epoch-making, first-hand studies of human digestion.

Am always glad to get CLINICAL MEDICINE AND SURGERY and read it from cover to cover.—C. H. M., M.D., Colo.



The Seminar

Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussions of any or all problems. Discussions should reach this office by the 5th of the month following the appearance of the problem. Send your problems and discussions to The Seminar Dept. care CLINICAL MEDICINE, Waukegan, Ill.

Problem No. 9 (Medical)

Presented by T. R. Harrison, M.D.

Nashville, Tenn.

(See CLIN. MED., Sept., 1940, p. 321)

RECAPITULATION: A man, 47 years old, had had "spells" for 10 years—fullness in the neck, general weakness, palpitation, numbness of the extremities, and pale, clammy hands, lasting from a few minutes to an hour. He did not lose consciousness. Attacks were worse when he was under mental and business pressure, and came on between 10 and 11 A.M.

The usual routine physical and laboratory examination, including an electrocardiogram, showed nothing abnormal except a slow pulse (rate 52), and blood pressure 110/70.

Requirements: State your tentative diagnosis, giving reasons, and outline treatment. What if any, further information would you require to make a positive diagnosis?

Discussion by Malcolm T. Tipton, M.D.,
Union City, Tenn.

Tentative Diagnosis: Hypothyroidism (Borderline).

Reasons: 1.—Low-normal blood pressure.

2.—Bradycardia.

3.—Theoretical reasoning: Mental strain causes the thyroid gland to lose its reserve (?) secretion. The gland, not being able to function properly, cannot replace this, and the patient has an attack. The history of fullness in the neck might not be due entirely to nervousness.

Treatment: Adequate doses of thyroid extract.

An accurate basal metabolism estimation would make the diagnosis stand or fall. If it fell, I would turn to a diagnosis of *neurocirculatory asthenia* and advise the patient to get rid of the business which gives his mind so much mental tension. He, no doubt, would not do this, and for the next ten years of his life would continue the rounds of recommended medical advisers.

Discussion by John K. Regehr, M.D.,
Otis, Colo.

The symptoms and physical examination data in this case may mean nothing; but, on closer consideration, weighing each separately, the conclusion leads me to diagnose the case—a *substernal goiter* with intermittent toxic attacks, due to overwork and psychic stress.

I should want a basal metabolism test, though it may show a normal rate. I should also want the patient kept under close observation by a competent nurse, who will be able to detect definite

changes and will have a chance to observe an attack first-hand, under normal conditions. Such a procedure might substantiate the diagnosis or change it.

If it were substantiated, the patient would require a radical operation, removing the tissue that causes pressure on the jugular vessels and pneumogastric nerves.

If no confirmatory evidence were found, it would point to a case of *neurasthenia*, with pronounced symptoms in the vital organs.

In either case, the treatment, for a definite time, should include limited duties, fresh air, exercise, regulated meals, and rest and sleep for many hours daily; or even a change of location.

Discussion by Harold H. Parsons, M.D.,
Moline, Ill.

It seems to me that the most likely cause of this man's symptoms would be *paroxysmal tachycardia*.

It is mentioned that the electrocardiograms were negative, but it does not say *when they were taken*, and if not taken during one of these episodes, they would be negative, except that one might occasionally see an extra systole, which would be considered normal. Their presence, of course, might suggest whether the condition was of auricular or ventricular origin. The duration of these spells over a period of 10 years, would suggest that they were not especially serious.

If an electrocardiogram could be taken at the time of an attack, and showed paroxysmal tachycardia, quinidine sulfate, in doses of from 3 to 5 grains, three times a day, would probably relieve the man.

Just to determine whether other factors were involved, a blood-sugar test might be made when the man was taken with an attack, to be sure that the blood sugar was not too low.

Discussion by W. E. McKinley, M.D.,
Jewell, Kans.

In the presentation of this problem, nothing is said as to whether this general numbness, associated with fullness in the back of the head, is continuous or paroxysmal; and no information is given as to a negative Wassermann test.

Such conditions, appearing in a man of 47 years, would awaken a suspicion of some organic disease of the brain, possibly associated with kidney disease (clammy, sweaty hands).

My first thought in this case would be (1) *incomplete attacks of epilepsy*—a *sensory aura* with abortive attacks of convulsions; (2) hysterical anesthesia; or (3) paresthesia of early subacute sclerosis of the cord.

Hysterical and neurasthenic patients may give much trouble in making the proper diagnosis.

Treatment: At the beginning of an attack, the inhalation of a crushed pearl amyl nitrite, followed by a ketogenic diet and phenobarbital, as required.

**Discussion by Eugene Carmichael, M.D.,
Cedar Rapids, Iowa**

The duration of the illness in this case (10 years), the incidence and character of the man's symptoms, and the statement that all physical examinations have given negative results, favor the opinion that the disturbance is purely functional. In ten years an organic condition would have progressed sufficiently to be diagnosable.

The fact that no anatomic lesion could be found to account for the syndrome, points to a tentative diagnosis of *anal reflexes*, the cause of which may be buried fissure and small irritable piles, as sympathetic stimuli. If it is a reflex case, it is likely that the patient does not have many, if any, marked local rectal symptoms, the nervous impulses being shunted to distant parts. The extreme weakness, numbness of the extremities, and palpitation are sympathetic nerve symptoms; the bradycardia and low blood pressure are parasympathetic nerve symptoms.

Buried fissure, a lesion posterior to the anal canal, and small piles and crypts should be thoroughly treated, to obtain satisfactory results. To one who knows the importance of minute anal lesions in the causation of chronic functional disturbances, his first thought is that this is an anal reflex case, one of sympathetic and parasympathetic reflex symptoms mixed.

**Discussion by Eldon L. Carlson, M.D.,
Los Angeles, Calif.**

This problem presents a picture of mental strain, manifesting itself in the form of a psychoneurosis. The symptoms are predominantly those of *vagotonia*, although they show some imbalance of the entire autonomic nervous system. The attacks of which the patient complained, occurring at irregular intervals for the past ten years, are typical vaso-vagal attacks (Gower's syndrome of *vagotonia*).

The causative factors in provoking an attack might be any form of mental, physical, or nervous strain beyond his average capacity. The existing hypertonicity of the vegetative nervous system (*amphotony*) is an inherent, inherited status—a physiologic attitude. Environment has, no doubt, added to the nervous strain.

Treatment: Psychotherapy should be predominant. He should be reassured about his physical condition. Awaken new interests, and thus give him a new outlook on life. Replace the element of fear with faith, in any feasible manner.

For physical treatment, give tincture of belladonna and phenobarbital tablets (or a combination of these in the form of Belladrenal tablets) for the hypertonicity of the vegetative nervous system; small doses of desiccated thyroid, U.S.P., for sympathetic stimulation and hypotension; vitamin B₁ or the vitamin B complex, in adequate doses; calcium should be beneficial, supplemented by the use of dilute hydrochloric acid, for increased net absorption; plenty of sunshine or ultraviolet irradiation; an adequate, nourishing diet, avoiding overeating, roughage, and bolting of food; if constipa-

tion is present, prescribe bulk laxatives, such as Imbicoll, Mucara, etc.

Further examination: The family history should be brought out in more detail; also the past and present history, which should include past illnesses, habits, vocation, avocations, married family life, responsibilities, etc.; the present weight and height, and any loss or gain, should be recorded; blood Wassermann and Kahn tests and a basal metabolism test should be made.

**Discussion by G. M. Russell, M.D.,
Billings, Mont.**

No past history is presented, and the report of the present illness is not at all complete.

Had the patient had any contagious or infectious diseases? What other troubles had he had in his past life? How often did these attacks come on, and have they increased in frequency? What was his occupation?

The numbness, weakness, and palpitation might indicate some endocrine disorder, possibly hyperactivity of the adrenals. The thyroid may be at fault, but the blood pressure and the pulse pressure are not significant of hyperthyroidism. The bradycardia and low blood pressure might indicate hypothyroidism, although nothing is said as to slowing up of mentality, increase in weight, and the peculiar, soggy edema. I would want Wassermann and Kahn tests, also a basal metabolic reading.

Due to the paucity of evidence, even a tentative diagnosis has no definite foundation; however, I will venture that of hypothyroidism, and if this diagnosis were corroborated with a low basal metabolic rate, treatment would consist of desiccated thyroid extract, given as indicated.

Solution by Dr. Harrison*

A dextrose tolerance test revealed *hypoglycemia* (blood sugar, 58 mg. percent) three hours after the beginning of the test, at which time he stated that he was having a mild attack. It was found that a conversation with his associates, concerning important business matters, would produce an attack two and a half to three hours after meals, but at no other time.

He was given a high-protein diet, and shortly thereafter the same procedures failed to induce any symptoms. He was told to eat a large piece of lean meat at each meal, and to take a small amount of fruit juice at two-hour intervals. On this plan of therapy, the patient has remained well for six months.

Hypoglycemia may cause anginal pains. The important diagnostic point is that the pain occurs from two to three hours after eating.



Problem No. 11 (Medical)†

**Presented by N. T. Ussher, M.D.,
Santa Barbara, Calif.**

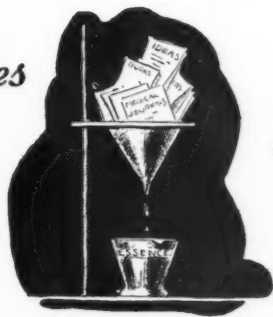
A WELL developed, rather obese Armenian, aged 38, when first seen, was cold, cyanotic, straining weakly on expiration, and sweating profusely. Two Boston hospitals, where he had been a patient several times during the preceding three years, reported exhaustive protein sensitivity tests, with no

*Adapted from *Southern Medical Journal*, March, 1940.

†Adapted from *Ann. Int. Med.*

(Continued on page 398)

Clinical Notes



and

Abstracts

Hypertension and the Liver

EXAMINING the literature on essential hypertension with a particular eye to therapeutic methods, we cannot fail to be impressed with the lack of positive information. The various remedies mentioned are empiric, and their employment is subject to fashion. Most drugs in common use are of symptomatic value, and these are employed only for their immediate depressor effects.

There was a time when thyroid and other endocrine substances were prescribed widely; at the present, estrogenic substance is employed, especially in menopausal cases. This empiricism is not exclusively in the province of the much maligned general practitioner, but is resorted to by even the most scientific internists. The puzzling thing is the lack of reference to the liver, either etiologically or (as liver extracts) therapeutically.

The relationship of insufficient hepatic detoxication to essential hypertension, in at least a certain proportion of cases, seems to be well established, both experimentally and clinically. W. J. Macdonald (*Can. Med. Assn. Jour.*, July, 1925, p. 697) described an extract of the liver which reduces the blood-pressure. Although Macdonald's first extract contained some histamine and cholin, the effect could not be attributed to these, since even larger doses of histamine alone did not produce the same results. Research along similar lines by R. H. Major (*Bull. Johns Hopkins Hosp.*, May, 1924, p. 140) developed a guanidine-neutralizing, blood-pressure-reducing principle from liver. In 1925, Harrower announced the standardization of a depressor liver extract named Anabolin, which was assumed to be identical with the active principle of Macdonald's extract. Its effects seemed to be brought about by intensifying the anabolic functions of the liver.

Since then, it has been demonstrated that this substance is a true detoxicating hormone. A group of Japanese workers perfected a liver fraction, Yakriton, claiming that it is the detoxicative hormone of the liver. It seems to be chemically identical with Anabolin and was shown to inhibit the toxicity of heavy doses of ammonium chloride, histamine, chloroform, and even cobra venom. It also increases the capacity of the liver to detoxicate protein poisons like phosphorus and phenol. (Yoshi-

matsu, S., and Sato, A.: *Tohoku Jour. Exper. Med.*, Dec., 1926, p. 234).

There are several clinical reports on the value of liver extract in the treatment of hypertension; among them is that of M. J. Flipse (*Jour. Florida Med. Assn.*, Oct., 1927, p. 185), who claimed that liver extract was effective in many cases in which ordinary vasodilators failed to reduce the tension.

The experience of T. L. Althausen and his associates (*Am. Jour. Med. Sci.*, March, 1929, p. 398), with 29 cases, convinced them that liver extract brings about a considerable lowering of the blood pressure and affords complete or marked symptomatic relief in many cases. Cases of hypertension known to have lasted less than two years, without marked arteriosclerosis, offer the best prognosis.

More recently, in a symposium on the management of vascular hypertension, J. D. Willis (*Va. Med. Monthly*, Dec., 1937, p. 505) said that many times a sudden and potentially dangerous rise of blood pressure can be avoided by the judicious use of liver extract. He states that he has used Anabolin for years and that, "Where this remedy is effective (and it oftentimes is spectacular in its effect), the rate of pressure-drop slows as it approaches a high-normal reading."

The brilliance of the early work of Minot and Murphy with the hemopoietic liver extract, in the treatment of pernicious anemia, did much to overshadow this work with the entirely different detoxicative principle from the liver; although it is difficult to see how any results can be more striking than the emphatic reduction of an alarming arterial hypertension, brought about by Anabolin. Surely, this hypotensive principle merits more sympathetic attention. Most of my colleagues who use it, in properly selected (functional) cases, are enthusiastic.

So far as my personal experience is concerned, I find it to be almost specific in about 40 percent of hypertension cases. In fact, I usually see some reduction in all of them. But Anabolin is of value only in the so-called "functional" hypertension, and here it works very rapidly. If a given case does not show a very marked reduction in pressure within a week, I know that the basic cause is essentially organic and that I must then search elsewhere.

Another thing that I have learned from clinical experience is that, in many cases, particularly those of the more chronic, toxic type, the response to this method is much better if bile salts are given orally, at the same time or prior to the injection of Anabolin.

H. J. ACHARD, M.D.

Glendale, Calif.

[We shall be glad to hear from any of our readers who have used any type of liver therapy in hypertension, especially that mentioned by Dr. Achard, with details of the type of cases treated, the medicament used, and the results. This matter is sufficiently important to merit real clinical study. —Ed.]

What the Wassermann Test Tells

THOSE responsible for serologic examinations are somewhat appalled by the willingness of physicians to diagnose "laboratory syphilis," in the absence of any evidence except that provided by a single positive Wassermann test. *The laboratory cannot undertake, by present tests, to state whether or not an individual has syphilis; the physician must make that investigation.*

The term "positive test" means only that a specimen contains reagin at an arbitrarily established level. If reagin below that level is found, the specimen is reported as doubtful. If no reagin is found, a negative report is given. Where several methods of testing are used, one must remember that positive or doubtful reports, by any or all methods, mean just that.

The Wassermann test does not determine activity. A case showing a "four plus" reaction may be less active than one giving a "one plus," or an old, non-infective case may give a markedly positive reaction. The Wassermann test does not indicate that the individual is in an infective state.

Above all, remember that there is a fringe of one percent false positive tests. In Iowa, for example, where 150,000 tests are performed yearly, approximately 1,500 persons a year give a false positive test.—M. E. BARNES, M.D., in *J. Iowa S. M. Soc.*, Sept., 1940.

Treatment of Painful Corns

A SMALL injection of 0.5 cc. of Nupercaine or Eucupin in oil (both are long-acting local anesthetics), on each side of the proximal phalanx of the toe involved, will be sufficient to produce anesthesia that lasts from ten days to six months. The corn can then be pared thin and the patient instructed to soak the foot thoroughly in hot water twice a week and rub it thoroughly with a coarse towel or sandpaper. By the time sensation has returned, the corn has usually disappeared completely.

Rarely, a later injection is necessary to relieve pain. Occasionally, a small amount of swelling or reaction at the site of injection occurs.—C. KENNETH COOK, M.D., in *Med. Rec.*, Sept. 18, 1940.

Save postage! Use the Coupon
SEND FOR THIS LITERATURE

Ultraviolet Rays in Eye Diagnosis

THE crystalline lens fluoresces under ultraviolet rays, and this fact opens up several diagnostic possibilities, especially now that the light, compact, simple portable lamp, developed by Dr. Eliott B. Hague, of Buffalo, N. Y., cooperating with the American Optical Company (see *A. J. Ophthalmol.*, Mar., 1940), is available.



Courtesy, American Optical Co.

Hague Cataract Lamp

This lamp may be used (1) to identify cortical residue or remnants of capsule following extracapsular cataract extraction; (2) to visualize the anterior capsule of the lens in intra-capsular extraction; (3) to locate dislocated lenses; (4) to recognize fine, superficial, corneal abrasions stained with fluorescein, without the use of a corneal microscope or slit lamp; and (5) to detect slight lesions of the lid, more or less imperceptible by ordinary light. Other uses are being investigated.

While this apparatus is of special interest to eye specialists, it might have a definite value to those general clinicians who see a good many eye cases.

Treatment of Peripheral Vascular Disease*

EVALUATION of methods: By scientific measurement with thermocouples inserted into skin and muscle, the various methods of treatment of peripheral vascular disease have been grouped as to their effectiveness.

Novocain: Spinal analgesia and paravertebral anesthesia (produced by the injection of Novocain—procaine—about the paravertebral ganglia) resulted in marked rises in skin temperature, and no change in the temperature of the calf muscles.

Heat: Immersion of the forearm in hot water (110° F.) gave similar results; immersion in cold water did not result in any temperature change in the calf muscles. *Smoking* caused a drop in the

**Arch. Phys. Ther.*, May, 1940.

skin temperature of the toes, but no decided change in the muscle temperature.

Adrenalin: When Adrenalin (epinephrine) was injected slowly, intravenously, a sharp drop in the skin temperature and a rise in muscle temperature followed. *Aspirin* caused the skin temperature to rise, but produced only a slight change in the temperature of the muscle (rise or fall, on different occasions). *Whiskey* caused cutaneous vasodilatation and, in most instances, a slight increase in the muscle temperature.

Salt solution: The intravenous injection of 300 cc. of physiologic salt solution caused no change in the skin or muscle temperature. The same quantity of 5 percent *hypertonic* salt solution produced a marked rise in both skin and muscle temperatures.

Typhoid vaccine: The injection of typhoid vaccine, in sufficient quantity to cause a rise of a few degrees in rectal temperature, produced, first, a decrease of skin temperature, followed by a marked increase.

Physical measures: Diathermy and short-wave currents produce the greatest elevation of muscle temperature when applied *locally*. Infrared radiation causes an elevation intermediate between that produced by the diathermy currents and the hot-water bag. The local application of cold causes a very decided decrease in the intramuscular temperature, as well as of the temperature of the skin.

Intermittent venous occlusion causes a rise in the temperature of the skin surface, but no decided change in the calf muscles. Exercise causes the skin temperature first to decrease and then to rise above the original level, while the muscle temperature becomes elevated to about the same level as that of the rectum. Fever produced by physical agents causes an elevation in muscle temperature, as well as a rise in rectal and skin surface temperatures.

W. BIERMAN, M.D.

New York City.

[Careful studies like this are of value in determining the method of treatment to be used in particular cases. For intermittent claudication, Bierman suggests those methods which cause an increase in deep muscle temperature, and for superficial ulcers and incipient gangrene, any method which results in warming of the skin.—Ed.]

Sulfanilamide in Gonorrhea

SULFANILAMIDE (and allied drugs) cures an undetermined number of gonorrhea patients. It fails to have any curative influence in a large, but as yet unfixed, percentage of such patients. In both men and women it may bring about a symptomless carrier stage. Many patients, under sulfanilamide medication, fail to be stirred to clinical activity by alcohol, sexual excitement, and other things that almost invariably do so in uncured patients on other forms of treatment.

If sulfanilamide is having a curative effect, it makes the male patient almost or entirely free from objective symptoms within the first five days. If this does not occur, the drug should be stopped. Later, another course or another drug of the same group may be tried. If symptoms disappear, the medication should be continued for week or ten days longer; if not, it should be discontinued, to

avoid needless toxic reactions. Relapse is frequent after apparent clinical cure. *Negative smears, even when repeated, do not mean cure.* As soon as possible, cultures of urethral discharges should be made available to all physicians.—P. S. PELOUZE, M.D., in "New International Clinics," Mar., 1940 (J. B. Lippincott, Publishers).

Eye Training and Squint

ABOUT 50 percent of all cases of strabismus can be corrected by refraction, occlusion, atropine, and orthoptic training.

Early operation is not necessary in a large percentage of cases, if training can be used regularly.

It is of great importance to have the cooperation of the parents and teachers.

Most patients, especially in the younger groups, should have orthoptic training before operation.

All, with but few exceptions, should have post-operative orthoptic training.

Functional training has its effect upon the visual centers and the centers controlling the movement and behavior of the visual organs.

Early consideration of squint is of paramount importance, as surgery may be reduced to a minimum by starting those cases as early in life as possible.—OSCAR B. NUGENT, M.D., F.A.C.S., in *A. J. Ophthalmol.*, Jan., 1940.

The Diagnosis of Diabetes

GLYCOSURIA and elevated blood sugar, although suggestive of diabetes, are not conclusive. The patient's previous diet must be considered. An individual on a strict reducing diet, one on a high-fat diet, or one suffering from a toxic or septic process will show a blood sugar curve identical to that of a diabetic patient.

The reducing patient comes to the physician with a history of having lost 25 pounds in a short period of time; of having developed headaches and feeling of listlessness, lassitude, and perhaps nausea with occasional vomiting; acidosis is disclosed by a test for acetone bodies in the urine; and the blood sugar curve is of the diabetic type.

If this patient is given an adequate amount of carbohydrate so that her body will stop breaking down its own fat, the urine will be cleared of sugar and she will be relieved of symptoms.—I. A. MANVILLE, M.D., in *Northw. Med.*, July, 1940.

X-Ray Diagnosis of Lobar Pneumonia

WITHIN from 12 to 18 hours after the onset of pneumonia, small areas of clouding, or veil-like haziness, or massive areas of consolidation may appear. It may be safely stated that *if no x-ray findings are present in 48 hours, the clinical diagnosis is probably incorrect.*

Frequently lower-lobe pneumonias do not involve the prolongation of the lung into the costophrenic sulcus, so that clouding of this area may be assumed to indicate extension to the pleura and the formation of an effusion. Regardless of the density or extent of the cloudiness, *the diagnosis of pleural effusion is justified only when the mediastinal structures are shifted or when the visceral and parietal pleura can be seen to be separated.*

The presence of consolidation affecting all or part of a lobe does not invariably signify a pneumococcal infection, as identical appearances may be seen in tuberculosis, confluent bronchopneumonias, (particularly those of staphylococcus and Friedlander's bacillus origin), and bronchiogenic carcinoma.

Resolution may precede, coincide with, or follow the crisis, no relationship being demonstrable. The process of resolution may be so slow that two months have passed before the roentgenogram becomes normal.—M. D. TEITELBAUM, M.D., in *New Orleans Med. & Surg. J.*, May, 1940.



Inserting the Duodenal Tube

THE technic of introduction of a duodenal or intestinal tube (such as the Miller-Abbott tube) is as follows:

The tube is lubricated with a local anesthetic agent in a *water-soluble base*, and the tip is passed through the nose and into the stomach (if a balloon is used on the tube, it should be deflated). After a preliminary lavage, the tube is partially withdrawn, so that the tip is at the cardiac end of the stomach (determine the distance by measuring the tube on the patient).

With the patient lying on his right side or on his back, in the semi-Fowler position, the tube is slowly advanced, at the rate of $\frac{1}{2}$ inch every $\frac{1}{2}$ hour. Fluids are withheld and a slight suction maintained, to keep the stomach empty during the procedure. A roentgenogram or fluoroscopic examination will indicate when the tube is in the duodenum. — D. M. WILLSON, M.D., in *Proc. Staff Meet. Mayo Clinic*, June 12, 1940.

[The originators of the Miller-Abbott tube recommend the slow insertion of the tube, but do not employ suction before attempting to enter the duodenum. When the tip of the tube is in the duodenum, only a small amount of fluid may be injected without encountering resistance, and the inflation of the balloon to a moderate extent soon shows peristaltic compressions. The tube must be pushed slowly in at all times, or it will kink in the stomach. Personal experience indicates that fluoroscopic guidance is valueless when marked distention is present and when the tube kinks high up in the cardiac end of the stomach. It is also dangerous to expose the patient and the physician's hands to repeated doses of roentgen rays.—R.L.G.]



The Vitamin Treatment of Cirrhosis

THE administration of a full diet (high in carbohydrates and proteins and low in fat; 3000 calories; 500 Gm. of carbohydrates, 110 Gm. of proteins, and 60 Gm. of fats), plus a high vitamin intake (haliver oil, orange juice, yeast and thiamin chloride, and liver extract by mouth or by injection), with 10 grains of animal bile salts with meals, has resulted in complete recovery and considerable improvement in one-third of a series of patients with cirrhosis of the liver.

The liver is a great storage depot for vitamins, and perhaps for provitamins. Its normally high content of vitamins A and D is well-known, as is the fact that it is one of the principal storehouses

for vitamin C. It likewise stores the B complex, or at least certain portions of it, and is essential in the utilization of vitamin K to form prothrombin. It is natural to suppose that, in advanced hepatic disease, a state of deficiency in respect to one or more of these vitamins may develop.

Vitamin K, when given with a high-carbohydrate diet tends to prevent bleeding from **esophageal varices**. Recently, several cases have been treated by injection of the veins through an esophagoscope—a much more simple procedure than the usually advocated omentopexy, splenectomy, or direct ligation of veins.—A. M. SNELL, M.D., in *Minn. Med.*, Aug., 1940.

[If this treatment works out in other hands, it will be a remarkable therapeutic discovery, since our resources in the treatment of cirrhosis of the liver are now deplorably meager.—Ed.]



Nutrition in Old People

It is generally recognized that an adequate, energy-producing, and nutritional-protective diet is essential during old age. However, since an ample dietary regimen is usually not well tolerated by this type of individual, a fortified food drink was used as a supplement to their regular treatment.

Thirty (30) senile individuals, having a variety of gastro-intestinal disturbances, were given Cocomalt as a food drink. It was found that the product was well liked, well tolerated, and did not cause any aggravation of their symptoms. In most instances, during one month of observation, there was an improvement in the red blood cell count and the percent of hemoglobin, an increase in appetite, and a moderate gain in weight. It was also found that the ability to tolerate milk was greatly enhanced by its use.

This fortified food drink, by itself, may have limited therapeutic value, but when used as a supplement to the regular necessary treatment, it is no doubt a valuable method of supplying essential vitamin-mineral elements in a pleasant form.—HARRY BAROWSKY, M.D., in *Med. Rec.*, Aug. 21, 1940.



Diagnosis and Treatment of Urinary Infections*

THE male patient with a urinary infection is asked to urinate in two glasses, and the second glass is used for tests; the female patient is catheterized.

A portion of the urine is centrifuged (not absolutely necessary, but greatly facilitates concentration of urinary sediment); supernatant urine is poured off, leaving approximately one cc. in the bottom with the sediment; and the remainder is allowed to flow out in a drop on a clean glass slide, covered with a thin cover slip, and examined in a wet smear for pus, red blood and epithelial cells, casts, and even bacteria, if they are numerous (the high-power objective should be used). The cover slip is then slid or flipped off and the film of urine allowed to dry.

When dry, it is fixed by passing through a flame four or five times, stained with a modified Gram's stain, and examined under the oil-immersion lens for bacteria. In most cases, the wet smear will

**Northwest Med.*, July, 1940.

reveal pus, and the stained smear gram-negative bacilli, or less often gram-positive cocci; rarely, both will be present.

In persistent cases of urinary infection, the possibility of coexisting tuberculosis should be remembered. A culture is not necessary, if the staining of slides is performed carefully.

Treatment: Sulfanilamide, 40 grains (2.65 Gm.) daily, in four ten-grain (0.65 Gm.) doses, for from six to ten days, clears up most infections. Persons older than sixty years can tolerate 20 or 30 grains (1.325 to 2.0 Gm.) daily, and these small doses may bring about startling improvement. An elderly male with prostatism will frequently show miraculous clearing of infected urine, with relief of frequency and nocturia.

Mandelic acid should be given, in doses of from 10 to 12 Gm. (150 to 180 gr.) daily, since bactericidal concentration will not be reached unless this dose is given. Liquids must be limited to 1,500 cc. (1½ quarts) daily. Urine should be checked every other day for pH*, as mandelic acid is not effective unless the urine is acid. Baking soda, pop, alkaline cathartics, and citrus fruits must be excluded from the diet. Ammonium chloride, in doses of 60 grains (4 Gm.) daily, may be needed to acidify the urine.

Ten days of treatment usually clears up an uncomplicated infection, but several specimens should be examined to guard against recurrence. Sulfanilamide or Neoprontosil should be given, in slightly smaller doses, for five or six days more, after an interval of 10 days with no treatment.

T. R. MONTGOMERY, M.D.

Seattle, Washington.

The Treatment of Hiccup

SUCH simple measures as holding the breath, pressing on the abdomen, a series of deep breaths or rebreathing from a paper bag, traction on the tongue, pressure on the ensiform cartilage, or inhalation of aromatic spirits of ammonia, will often relieve hiccup. In a stout person, after a heavy meal, the tendency to hiccup is relieved by bending back in the chair so as to give more space in the upper abdomen.

A simple carminative, such as:

R	Menthol	8 gr. (0.5 Gm.)
	Compound spirit ammonia	1 fl. oz. (32 cc.) of each
	Spirit of chloroform	
	Tincture of ginger	

Sig.: Two teaspoonfuls in water, taken as strong as possible, is of value, or a few drops of oil of cloves or cajuput on sugar.

If hiccup is due to gastric irritation and does not respond to simple measures, washing out the stomach and the use of an alkaline powder will be effective.

Obstinate hiccup should be treated with sedatives, given by mouth or intravenously, inhalations of 5 percent carbon dioxide in oxygen, or anesthesia (especially if the patient is hysterical). Intractable cases should be examined under the

*Chlorphenol red is used as an indicator. To one cc. of urine in a test tube add one cc. of distilled water and three or four drops of the indicator. A clear yellow or amber color shows a pH of 5.0, or acid, and deep-red (the color of the original dye) indicates a pH of 6.8—almost alkaline.

fluoroscope, to see which half of the diaphragm is in spasm and to indicate which phrenic nerve should be stretched or even cut, if this should be necessary.—C. A. BIRCH, M.D., in *Med. World* (Lond.), Aug. 23, 1940.

Jaundice and Edema of the Newborn

UNIVERSAL edema and jaundice of the newborn (erythroblastosis or icterus gravis) are characterized by pallor at birth; jaundice, which appears 12 hours later and increases in severity; palpable spleen and liver (usually found); and increasing anemia.

Treatment: Repeated transfusions of 80 cc. of blood; injections of liver extract; and cevitamic acid (vitamin C) by mouth.

There is a familial tendency in this disease, and many still-births or premature deaths are cases of unrecognized erythroblastosis. The placenta is usually edematous and the amniotic fluid and vernix caseosa are deep-yellow in color. If the mother is given injections of liver extract during the later months of pregnancy, the disease may often be prevented.—J. M. ADAMS, M.D., in *Minn. Med.*, Aug., 1940.

Abdominal Distress Due to Milk Allergy

ONE-FOURTH of all cases of allergic abdominal distress are due to milk. "Spastic" colon should not be treated by a milk diet, as milk is a common cause of spasm.

Bed-side diagnosis: The abdominal distress or pain is usually absent before breakfast; abstinence from milk and milk products for four days results in relief of symptoms due to milk allergy (cream and water may be mixed together and used, if sensitivity is mild).

Borborygmi, abdominal cramps and diarrhea (watery or mushy stools) are characteristic symptoms. A history of other allergic illnesses (hay fever, asthma, urticaria, food allergy) may often be obtained.—LEONARD CARDON, M.D., in *Am. J. Dig. Dis.*, Sept., 1940.

Migrating Phlebitis

INVOLVEMENT of the superficial veins by migrating phlebitis appears as a localized, red, tender, swollen area, usually from one to six inches in length, along the course of any of the superficial veins of the extremities. It may occur anywhere, from the plantar surface of the foot all the way to the groin, or in the upper extremities it may involve the fingers or ascend to the axilla. After several weeks, it gradually subsides, fading to a light pink or brown discoloration. At the same time the tenderness decreases and all that is found is a firm, cord-like, sclerosed vein that may be rolled under the finger.

As soon as the primary focus subsides, a secondary area of phlebitis appears, either along the course of the same vein or in the opposite extremity ("migrating" or "jumping" phlebitis). The appearance of such areas should suggest the diagnosis of **thromboangiitis obliterans**.

Phlebitis of the deep veins may be indicated by the sudden appearance of cyanosis of either the

whole or part of an extremity, which disappears on elevation of the limb. *Edema* is present if the patient has been standing, but may not be if he has been lying down. In contrast to superficial phlebitis, deep phlebitis is usually accompanied by a fever of 103° F., or even higher, and disturbing general symptoms may appear.—SAUL S. SAMUELS, M.D., in "Diagnosis and Treatment of Diseases of the Peripheral Arteries" (Oxford Medical Publications).

Treatment of Bronchial Asthma

WHEN the physiologic effect (pallor about the nose, fibrillary tremor, or palpitation) is obtained, do not give more epinephrine, even if there has been no improvement.

A satisfactory method: Inject 0.1 cc. a minute, with the syringe left in place, until the attack begins to subside or until the physiologic effects are noted. Frequent doses can be avoided later by injecting from 0.5 to 2.0 mg. of powdered epinephrine in oil, for slow absorption and prolonged effect.

Hot, strong, black coffee, sipped slowly; emetics; enemas; inhalations of burning stramonium leaves or of 1:100 adrenalin with an all-glass nebulizer, all may be of value. Continuous mild or moderate wheezing will often clear up with positive-pressure breathing, produced by pursing the lips during expiration, inspiration being conducted in the usual manner.

Acetylsalicylic acid and sedatives must be used with caution, as they tend to produce bronchospasm in some persons.

The slow intravenous injection of from 4 to 8 grains of aminophyllin in 10 cc. of dextrose or physiologic saline solution, through a 22-gauge needle, gives prompt relief in some cases of intractable asthma. Abdominal distention may be relieved by a small catheter left in the rectum. Cyanosis should be corrected by oxygen inhalations.—C. H. EYERMANN, M.D., in *Dis. Chest*, Aug., 1940.

The Feeding Treatment of Bleeding Peptic Ulcers

THE mortality rate of bleeding peptic ulcers has been halved by allowing a full-feeding regime consisting of pureed foods as follows:

6 A.M.: Tea, bread, butter.

9 A.M.: Oatmeal, milk, bread, butter.

1 P.M.: Unrestricted amounts of meat balls, broiled chops, omelette, fish balls, vegetables or meat, mashed potatoes, pureed vegetables, cream of vegetables, vegetable soup, stewed fruits, apple-sauce, gruel, rice, and tapioca pudding.

3 P.M.: Chocolate, cocoa or, malted milk.

6 P.M.: Bread and butter, sliced meats, cheese, tea.

Three times daily, a powder is given which contains these ingredients:

Sodium bicarbonate	2.0 Gm.
Magnesium subcarbonate	2.0 Gm.
Extract of hyoscyamus	0.1 Gm.
Ferrous lactate	0.5 Gm.

One or two transfusions are given if exsanguination is evident or imminent.—J. CHASNOFF, M.D., et al, in *Am. J. Dig. Dis.*, Sept., 1940.

The Ewald Test Meal

IN spite of all the criticisms directed against the orthodox method of gastric analysis, it is still a favorite with the medical profession. At the Mayo Clinic, arrowroot biscuits and water are still used as the routine method. Objections directed against the single aspiration method and the Ewald type of meal are scientifically well-founded. Our feeling is that, for practical purposes, it matters little what is used for a test meal or how many extractions are made. It is only the exceptional case that will give low figures with one method and high ones with another.

Five Uneeda biscuits and 400 cc. of water are the test meal I use. Fasting stomach contents are aspirated only when hypersecretion is suspected. Aspiration is done with a large tube (34 to 36 F.), from 45 to 50 minutes after ingestion of the meal. If the contents are negative to Congo red, a Levin tube is passed and several fractions are aspirated at 15-minute intervals. A histamine test is made one or two weeks later, when no free hydrochloric acid is found. The latter test is not necessary in 90 percent of the patients studied.

The determination of the exact degree of gastric acidity is not of great diagnostic significance. Hyperchlorhydria or achlorhydria may be found in healthy persons; Carlson's work even shows that they may both be found in the same person at different times. The different curves obtained by fractional analysis are no longer regarded as specific for certain pathologic conditions.

The presence of ample free acid makes the diagnosis of primary anemia questionable. Carcinoma of the stomach may occur with a moderate amount of free acid, but is rare. Achlorhydria indicates a diet change and management of the case; also it is evidence against ulcer.—D. SANDRONI, M.D., in *Ann. Int. Med.*, May, 1940.

The Seminar

(Continued from page 392)

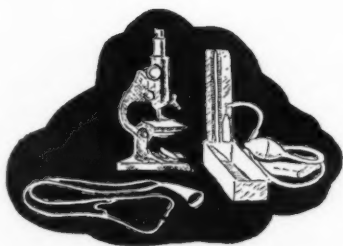
positive reactions. His hospitalization periods, for attacks of bronchial asthma, had ranged from 10 to 22 days, and moderate improvement followed injections of Adrenalin (epinephrine). In the intervals, he took from 15 to 20 minims of epinephrine a day to obtain partial relief.

In the attack here described, epinephrine, ephedrine, atropine, and calcium lactate were administered, over a period of 24 hours, with little relief, and the patient's heart became irregular, in spite of the use of digitalis and general supportive measures.

Little was to be found on physical examination, except asthmatic râles in both lungs. The patient's back muscles were corded, tight, and tender to touch. The routine examination of blood and urine was negative, as was also a chest roentgenogram.

Within eight minutes after the adoption of a different line of therapy, he began to cough up large plugs of mucus and to breathe easier.

Requirements: Suggest the possible nature of the successful treatment mentioned, giving reasons. What further information would you need to assist you in identifying this method?



Diagnostic Pointers

Vitamin B₁ Deficiency

● Anorexia and fatigue, which do not respond within 72 hours to thiamin (vitamin B₁) treatment, are probably *not* due to a vitamin deficiency. Neuritis, involving both legs symmetrically, is often a definite sign of thiamin deficiency; early symptoms are "heaviness" of the leg and calf-muscle cramps. These are followed by paresthesias in the toes and fingers, burning of the feet, and pains in the legs. Pain, though nearly always present, can often be elicited only by a leading question. Calf-muscle tenderness and plantar hyperesthesia are the earliest objective signs. The ankle jerks usually disappear.

Edema and serous effusions, with or without evidence of heart failure, are found in one-third of all persons deficient in vitamin B₁.—NORMAN JOLLIFFE, M.D., in *Minn. Med.*, Aug., 1940.

Peripheral Arterial Disease

● A simple test for circulatory efficiency of the feet or hands is this: The hands or feet are elevated to an angle of 45 degrees, then flexed and extended at the wrist or ankle for several minutes. Pallor (ischemia) soon appears on the sole of the foot or palm of hand, and is especially striking if one extremity alone is affected.—SAUL SAMUELS, M.D., in "Diseases of the Peripheral Arteries" (Second edition; Oxford University Press, 1940).

Pathology of Tonsils

● The routine pathologic study of 8,500 pairs of tonsils, after removal, showed 7 cases of tonsillar tuberculosis; 5 of syphilis of the tonsil; 4 of tumor (two malignant, two benign); and 1 case of trichina infection. *All these serious conditions could not be diagnosed at operation.*—A. STARRY, M.D., in *Ann. Otol. Rhin. and Laryng.*, May, 1940.

Hemorrhage from the Rectum

● Hemorrhage from the rectum (if proctoscopic, x-ray, and blood examinations are negative) may arise from a bleeding ulcer of a Meckel's diverticulum. The bleeding may be a slow ooze or a massive hemorrhage, with shock.—G. A. STEWART, M.D., in *Rev. Gastroent.*, July-Aug., 1940.

Vitamin B and Gray Hair

● A portion of vitamin B complex is apparently responsible for hair pigmentation. Experimentally, graying of the hair is produced by its omission, and normal color is restored by its use in the diet.—*South. Med. J.*, May, 1940.

[The prediction, made some years ago by Goldberg, that the whole vitamin B complex should be given for a balanced diet, has been substantiated by research. Graying of the hair was *made worse* if large amounts of any of the pure vitamin B components (nicotinic acid, riboflavin, B₆) were given in abundance, in the absence of the hair-pigment vitamin.—Ed.]

Verification Test in Latent Syphilis

● When serologic tests for latent syphilis are doubtful, it is well to verify them, which can be done thus: Kahn tests are usually made at a temperature of 21° C. If doubtful, they should also be made at 37° and at 1° C. These tests are reported "positive" if precipitation occurs at 37° C., with none (or occasionally, with) at 1° C.; and "negative" when there is precipitation at 1° C., and none (or, occasionally, with) at 37° C.—REUBEN L. KAHN, Sc.D., in *Archiv. Derm. & Syphil.*, May, 1940.

Gallbladder Disease and Peptic Ulcer

● Cases presenting part, but not all, of the chief characteristics of peptic ulcer, and suggestive of gallbladder disease, should be examined not only for a gallbladder lesion but for pathologic changes in the stomach and intestine. Gallbladder disease and peptic ulcer are *both* present in certain cases.—ERIC J. RYAN, M.D., in *Radiol.*, June, 1940.

Asbestosis

● Asbestosis is a debilitating disease caused by exposure to asbestos dust. Pulmonary infections are frequent complications. The x-ray examination is the most important single procedure in diagnosis. The shadows are finer, lighter, and more granular than the nodular, patchy type of infiltration found in silicosis. Many of the patients are dyspneic and exhibit markedly lowered vital capacity. The disease may progress by fibrosis after exposure to asbestos has ceased. Being caused by exposure to dust, this condition should entitle the patient to compensation under industrial accident laws.—M. J. STONE, M.D., in *Dis. Chest*, June, 1940.

Thumbnail Therapeutics



Injection of Oxygen into Joints

● Oxygen is injected into the acutely inflamed and the recently injured joint to prevent the formation of adhesions. Adhesions may be broken up in the "dry" knee joint by the use of oxygen injections under pressure (as high as 12 pounds). In the acutely inflamed joint, as much fluid is removed as possible by needle aspiration, and oxygen is then allowed to flow into the joint to the limit of the patient's tolerance, but no effort is made to inflate an already stretched capsule. Pain is relieved rather readily. — E. BENNETTE HENSON, M.D., in *South. Med. J.*, July, 1940.

Eye Injuries

● Cuts or clean wounds of the conjunctiva heal rapidly if not infected, due to the rich blood supply. Cuts through the lids should be carefully approximated and sutured to prevent deformities. In from 24 to 48 hours the healing process is well established.

If acid or alkali enters the eye, as from cutting open a golf ball, the core of which contains an alkali, the eye should be thoroughly cleansed with water. For acid burns use 3-percent sodium bicarbonate solution; for alkali burns, boric acid solution or diluted vinegar. Lacking these materials, a few drops of olive oil, castor oil, milk, or sweet cream, may be used until the patient can be gotten to the office.—T. S. PAULSON, M.D., in *E. E. N. & T. M.*, Aug., 1940.

Hormonal Treatment of Hirsuties

● Injections of gonadotropic factor (A.P.L.—Ayerst, McKenna, and Harrison) produce quick, definite responses in treatment of hirsute women. The superfluous hair tends to fall out and is much looser. Hair growth often occurs, but the hair is lighter and softer and is readily removed.—G. B. DORFF, M.D., in *Ann. Int. Med.*, May, 1940.

Hexylresorcinol for Pinworms

● The treatment of pinworm infestation by hexylresorcinol enemas is effective. A preliminary soap-suds enema is followed by a hexylresorcinol enema (1:2,000 solution). The enemas should be given repeatedly over a period of time, such as ten enemas spaced over a period of three weeks. Non-medicated enemas, including soap-suds and saline solution, are occasionally of value for infants and young children too small to take oral therapy satisfactorily, if repeated every other night for at least three to four weeks or longer.—*J.A.M.A.*, May 18, 1940.

Prostigmin in Peripheral Circulatory Disturbances

● Prostigmin is an excellent vasodilator and is a useful adjunct in the treatment of peripheral circulatory disturbances in which vasospasm is a factor. At first, each patient is given a subcutaneous injection of 0.5 mg.; then 7.5 mg. orally three times daily, at six-hour intervals, for a week, without any other treatment. If no improvement occurs, the dose is increased to 15 mg. three times daily. The injection of 0.5 mg. produces a greater and more prolonged temperature elevation than does the oral administration.—S. PERLOW, M.D., in *J. A. M. A.*, May 18, 1940.

Anemia of the Newborn

● Anemia of the new born responds to repeated small blood transfusions or injections of liver extract.—HUGH L. DWYER, M.D., in *South. M. J.*, Mar., 1940.

Preventing Rheumatic Recurrences

● Rheumatic children who are given from 15 to 30 grains (1 to 2 Gm.) of sulfanilamide daily, over a period of months, were prevented from having recurrences of rheumatic fever. Sulfanilamide is of no value in the treatment of rheumatic fever.—R. L. CECIL, M.D., in *Minn. Med.*, Aug., 1940.

Histamine in Rheumatoid Arthritis

● Histamine diphosphate solution (1:1000), when properly given, by hypodermic injection, to rheumatoid arthritis patients without complete ankylosis of the joints, will increase motility and frequently relieve pain. The subcutaneous administration seems to be as satisfactory as iontophoresis, and is far superior to the use of the ointment, in my experience.

The individual tolerance to histamine varies; the first dose given should be 0.1 cc., which is increased by 0.1 cc. until a reaction occurs (nausea, sweating, flushing). Hospitalized patients are treated twice daily; ambulatory patients, three times weekly; and home patients are given injections once daily, by some member of the family.—R. O. MUETHER, M.D., in *Ann. Int. Med.*, May, 1940.



THE DOCTOR'S STUDY

Some books leave us free and some books make us free.—EMERSON.

Encyclopedia of Clinical Medicine

Rehberger

LIPPINCOTT'S QUICK REFERENCE BOOK FOR MEDICINE AND SURGERY: A Clinical, Diagnostic and Therapeutic Digest of General Medicine, Surgery, and the Specialties, Culled Extensively and Intensively from Modern Literature, and Systematized. By GEORGE E. REHBERGER, A.B., M.D., *Johns Hopkins University*. Philadelphia and London: J. B. Lippincott Company. 1940. Price, \$15.00.

EVERY busy physician feels the need of a book to which he can turn for brief, but adequate, information on almost any medical subject. Here it is! This is the eleventh edition since its appearance in 1920, but the first in which all its immense store of information is made readily available by a complete index, which doubles the value of the work.

The entire field of medical practice (except psychiatry) is covered in 11 parts, which are thumb-indexed: general medicine and surgery (including neurology & pediatrics); gynecology; urology; obstetrics; skin diseases; diseases of the eye, ear, nose, and throat; orthopedics (including fractures and dislocations); drugs; and a new section on anesthesia. There is also a pharmacologic index and a table of weights and measures.

There are many splendid color plates, including an excellent folding mannequin; black and white illustrations are freely used wherever necessary to clarify the text; and the bookwork is of high quality. Every section has been brought up to date.

Whatever other books a physician may have, none can take the place of this one, which should be within reach (not on the desk, because it is nearly as large as an unabridged dictionary—1402 pages, 7 x 10 1/4 inches) of every medical man in active practice, as it is, truly, a library in itself and a bargain at the price.

Anatomy Grant

A METHOD OF ANATOMY. By J. C. BOILEAU GRANT, M.C., M.B., Ch.B., F.R.C.S. (Edin.). *Professor of Anatomy in the University of Toronto*. Second Edition. Baltimore: The Williams and Wilkins Company. 1940. Price, \$6.00.

THOSE who have considered anatomy a "dry" study, will find here a delightful surprise, for Professor Grant's method of presenting the subject has transformed it from a hard, cold catalogue of

dead facts into a vital and living story of principles and relationships, enlivened and clarified by 651 original diagrammatic drawings, which are readily retained in the memory and develop the ability to reason anatomically. This new (second) edition has 134 more pages and 100 more drawings than the first.

To medical students, this handsome and well made volume will be a veritable godsend; and equally so to physicians who have allowed themselves to grow rusty on anatomy because, heretofore, there has been no work on the subject that could arouse their enthusiasm and hold their interest.

Synopsis of Surgery

Groves

A SYNOPSIS OF SURGERY. By ERNEST W. HEY GROVES, M.S., M.D., B.Sc. (Lond.), F.R.C.S. (Eng.), *Consulting Surgeon to the Bristol General and Municipal Hospitals, and to the Treloar Cripples' Hospital, Alton, Hants; etc.* Eleventh Edition. Baltimore: The Williams & Wilkins Company. 1940. Price, \$5.00.

THIS chunky little volume will not take the place of a major textbook on surgery nor of practical experience, but the student who is studying the textbooks and getting the experience, and the general practitioner and the surgeon who discover that some of their facts are fading, will find this well-digested information, presented in an orderly and sensible manner, without padding, a first-class memory jogger and a ready help in time of stress, when essentials of surgical diagnosis and treatment are needed on a moment's notice.

Military Medical Manual

MILITARY MEDICAL MANUAL. Third Edition. Harrisburg, Pennsylvania: The Military Service Publishing Company. 1940. Price, \$4.50.

OFFICERS of the Medical Reserve corps have needed such a book as this, to familiarize themselves with the duties they would have to perform as soldiers, and the present somewhat hysterical military activities will greatly increase the number of those to whom the knowledge here presented will be essential, if they are to play their parts intelligently if or when they are called into active service. The material is definitely official.

The volume is divided into three parts: Part I (328 pages) contains strictly military information (organization of the army; general tactics; chem-

New Books

Any book reviewed in these columns will be procured for our readers if the order, addressed to CLINICAL MEDICINE, Waukegan, Ill., is accompanied by a check for the published price of the book.

ical warfare; map reading; etc.). Part II (180 pages) deals with general medical matters (history of the medical corps; field sanitation; first aid; aviation medicine; etc.). Part III (310 pages) discusses the organization and tactics of the medical personnel attached to various combat units in the field. An adequate index makes all the information readily available. The printing and paper are of good quality, and the book is sturdily bound. A full-size contour map and a set of projectors accompany it.

Every medical man who is liable to see military service needs this book, and the less experience he has had as a soldier, the more he needs it.

The Patient as a Person

Robinson

THE PATIENT AS A PERSON. A Study of the Social Aspects of Illness. By G. CANBY ROBINSON, M.D., LL.D., Sc.D. Lecturer in Medicine, Johns Hopkins University. New York: The Commonwealth Fund. 1939. Price, \$3.00.

THE sick man who comes to the doctor or clinic, comes as a person with a full set of human interests and responsibilities. He may not suspect, and his doctor may not realize, how the pattern of his life affects his illness. But if the patient is given a real chance to explain "what the matter is," to a physician who has skillfully established a friendly relation with him, the result is sometimes to let in a flood of light on problems of diagnosis and treatment.

With the cooperation of the staff of the Johns Hopkins Hospital, Dr. Robinson studied a series of unselected patients. What this study revealed as to the social conditions of these patients and their emotional reactions to factors apparently lying outside the range of physical pathology is reported in detail.

Case histories illustrate the social and emotional status of patients with various physical, emotional, social, and mental disorders, and the need for checking recommendations for medical treatment against the intelligence of the patient who is to carry them out, and his ability to do so. These problems call for careful study, in this transition period of medical service, by all clinicians.

Medical Genetics

Roberts

AN INTRODUCTION TO MEDICAL GENETICS. By J. A. FRASER ROBERTS, M.A., M.B., D.Sc., F.R.S.E., Principal Investigator to the Burden Mental Research Trust, Stoke Park Colony, Stapleton, Bristol; Special Lecturer on Human Genetics, University of Bristol. London: Humphrey Milford; Oxford University Press. 1940. Price, \$4.50.

HEREDITARY constitution is one of the factors to be considered in discussions on the causation of disease, and this small volume, written especially for the student and physician, brings to them that part of the rapidly advancing science of genetics which will be of value to them in their daily contact with patients.

The basic principles of heredity are briefly and clearly stated. Only those topics are discussed that have practical application in the field of medicine. For the physician who is interested in the background of disease and in the prevention of disorders that may appear in his patients, this book is recommended.

The Injured Back

Ellis

THE INJURED BACK AND ITS TREATMENT. Edited by JOHN D. ELLIS, M.D., et al. Baltimore, Md., and Springfield, Ill.: Charles C Thomas. 1940. Price, \$5.50.

THE management of back injuries is hardly crystallized enough for textbook treatment, but enough is known to warrant the presentation of sound views on the matter.

In this practical reference work the viewpoints and practices of foremost authorities are ably presented; the technics of some of the recently introduced diagnostic procedures, upon which the nature of the pain-producing lesion can be determined, are made clear; and the indications for various modes of treatment of back disabilities are established more definitely than heretofore.

The materials presented express, sometimes, divergent viewpoints of men interested in the neurologic aspect and the orthopedic approach, as well as the routine methods available to the surgeon dealing with the various injuries sustained by working men. The practicing surgeon should find these contradictions and differences of opinion more stimulating, as well as more practically instructive, than if the materials had been merely presented didactically.

The Physiological Basis of Medical Practice

Best and Taylor

THE PHYSIOLOGICAL BASIS OF MEDICAL PRACTICE. By CHARLES H. BEST, M.A., M.D., D.Sc. (LOND.) F.R.S., F.R.C.P. (CAN.), Professor and Head of the Department of Physiology, Associate Director of the Connaught Laboratories, Research Associate in the Banting-Best Department of Medical Research, University of Toronto; and NORMAN B. TAYLOR, M.D., F.R.S. (CAN.), F.R.C.S. (EDIN.), F.R.C.P. (CAN.), M.R.C.S. (ENG.), Professor of Physiology, University of Toronto. Second Edition. Baltimore: The Williams and Wilkins Company. 1939. Price, \$10.00.

THE long gap between the physiology of the laboratory and the clinical physiology of the sick human being may now be easily bridged. The authors have succeeded in correlating dry knowledge with its actual application in disease conditions. A section dealing with all phases of special sense-physiology has been included in this, the second edition.

For handy reference, the subject has been divided into convenient sections—the blood and lymph, the circulation of the blood, respiration, excretion of urine, digestion, metabolism and nutrition, endocrine glands, the nervous system, and the special senses. Practical applications are brought out in each chapter.

The function of the biliary system is well presented, and the physician who studies this chapter assures himself that he is acting from knowledge, not from empiric or commercial superstition.

Industrial Hygiene

Lanza and Goldberg

INDUSTRIAL HYGIENE. By various authors; Edited by A. J. LANZA, M.D., Assistant Medical Director, Metropolitan Life Insurance Company; Formerly in charge, Office of Industrial Hygiene, U.S. Public Health Service, etc.; and JACOB A. GOLDBERG, M.A., Ph.D., Secretary, Industrial Hygiene Committee, New York Tuberculosis and Health Association, etc. New York, London, and Toronto: Oxford University Press. 1940. Price, \$3.50.

AS time goes on, the industrial physician will be asked more and more, especially if he lives in small towns where there are no industrial medical consultants or physicians devoting a large part of their time to this field, for advice on the prevention of occupational diseases in shops, factories, and mines.

This book is a valuable consultant to have at hand, as it will enable the physician to be of value (and to be recompensed, of course) in a new field.

A complete discussion is given on the physical examination of employees, by I. Ogden Woodruff. Tuberculosis and other pulmonary diseases are presented by J. Burns Amberson. Lewis Conner contributes the section on the heart and its disturbances; Moorhead that on traumatic surgery; Bierman on physical therapy in industrial hygiene; Henry Kessler on rehabilitation of the disabled; Bartle on care of railroad workers; Goldberg on

accidents and compensation; and so on through the fields of silicosis, occupational skin diseases, poisoning from lead and other heavy metals, the mental hygiene aspects of industry, and nervous conditions resulting from injury, etc.

The chapter on rehabilitation of injured workers is especially valuable.

Atlas of Skin Diseases

Semon

AN ATLAS OF THE COMMONER SKIN DISEASES. By HENRY C. G. SEMON, M.A., D.M. OXON., F.R.C.P. LONDON, Physician for Diseases of the Skin, and Lecturer to Postgraduates, Royal Northern and Hampstead General Hospitals; etc. Second Edition. Baltimore: The Williams & Wilkins Company. 1940. Price, \$12.00.

THE average general clinician admits that he is weak on the diagnosis of skin diseases, because he has too little opportunity to study cases; but here is a remedy for that condition.

The selection of these 120 typical cases of the common dermatoses has been made with such care, and the reproduction, by actual color photography from living patients, is so nearly the same as looking at the patient, that the practical aid in diagnosis is obvious. The condition can be readily identified, and checked with the concise clinical description facing each plate, which also gives the differential diagnosis and outlines of treatment. Familiarity with this atlas will lead to speed, skill, and accuracy in diagnosis.

When one considers the cost of color plates, 10 cents a plate seems reasonable, especially when the text and bookwork are thrown in.

Peripheral Vascular Diseases

Homans

CIRCULATORY DISEASES OF THE EXTREMITIES. By JOHN HOMANS, M.D., Clinical Professor of Surgery, Harvard Medical School. New York: The Macmillan Company. 1939. Price, \$4.50.

HOMANS has conferred a favor upon the general practitioner by writing a straightforward, practical, short book concerning the common circulatory diseases of the arteries, veins, and lymphatics, and what to do about them.

Unlike many surgeons, whose interest is limited to technic, he has studied the physiologic advances which have occurred in this field and the important diagnostic points.

It is refreshing to read a scientific text that is written in a clear, simple, common-sense manner. These are the chapter headings: Sorting out the vascular disorders of the limbs (a discussion of the various tests that may be applied, and the functions of the circulation); arteriosclerotic deficiency and thrombosis; thrombo-angitis obliterans; spasm of the arteries and arterial embolism; varicose veins; thrombophlebitis and pulmonary embolism; arterial aneurysm and abnormal arteriovenous communications; lymphangioma, elephantiasis, lymphedema, and interpretation of some simple observations upon the circulatory disorders of the limbs.

The general practitioner, internist, or surgeon who has this book at hand (and consults it) will find that he is able to diagnose and treat many forms of circulatory diseases of the extremities, and patients with unusual conditions will not be denied the relief that may be given by skilled help.

Works of Hippocrates

THE GENUINE WORKS OF HIPPOCRATES. Translated from the Greek by FRANCIS ADAMS, LL.D., Surgeon, with an introduction by EMERSON CROSBY KELLY, M.D. Baltimore: The Williams & Wilkins Company. 1939. Price, \$3.00.

ABOUT 500 years B.C., scientific medicine was born, and Hippocrates of Cos (surnamed "The Great") was its father. In his writings, the idea that disease was a penalty for sin was first laid aside, and word pictures of sick people, as they were actually seen by a wise and observant physician, were presented. Many of his descriptions and

comments are as accurate and "modern" as if they had been written this year.

In this beautifully made and dignified volume are presented the best English translations of all of the writings which are universally accepted as being the authentic work of the first great Master of Medicine, as well as several, as to the authenticity of which authorities disagree somewhat.

No physician can be considered a truly cultured member of his profession unless he has some acquaintance with the works of Hippocrates. Here one may obtain them all, at a reasonable price, for leisurely perusal.

Index of Treatment

Hutchison & Hilton

INDEX OF TREATMENT. By various writers. Edited by SIR ROBERT HUTCHISON, Bt., M.D., LL.D., F.R.C.P., Consulting Physician, London Hospital, and Hospital for Sick Children, Great Ormond Street. Assisted by REGINALD HILTON, M.A., M.D., F.R.C.P., Physician to St. Thomas's Hospital; Consulting Physician, Radium Beam Therapy Research, Farnborough Hospital, Kent, and Wembley Hospital. Twelfth Edition, Revised. Baltimore: The Williams & Wilkins Company. 1940. Price, \$12.00.

THOSE physicians who haven't had a recent edition of Hutchison should get this and let the old one go. Those who have never known the work at all have a pleasant experience in store, when they find what an astonishing amount of really helpful information on the whole field of Medicine is readily available (alphabetically arranged and also well indexed) in this big, brown book. Sir Robert, his co-author, and his 75 distinguished collaborators have made this an authoritative and thoroughly up-to-date volume, which any busy clinician can use with profit many times a day, as all who know it can testify.

Electrocardiography

Maher and Wosika

ELECTROCARDIOGRAPHY. By CHAUNCEY C. MAHER, B.S., M.D., Assistant Professor of Medicine, Northwestern University and the Montgomery Ward Medical Clinics, etc.; and PAUL H. WOSIKA, M.D., M.S., Instructor in Medicine, Northwestern University and the Montgomery Ward Medical Clinics, etc. Third Edition. Baltimore: The Williams & Wilkins Company. 1940. Price, \$4.00.

NOW that portable electrocardiographs, including one that writes its record directly, are available at moderate prices, more and more physicians need books on the interpretation of the graphs, and this is a good one.

Following diagrams of the heart and its conduction system, and normal electrocardiograms, fully explained, come 100 graphs showing arrhythmias, conduction disorders, changes in coronary occlusion, etc., with detailed interpretations and including the fourth lead—a helpful and authoritative guide in this relatively new field.

Peripheral Arterial Disease

Samuels

THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE PERIPHERAL ARTERIES. By SAUL S. SAMUELS, A.M., M.D., Chief, Clinic for Peripheral Arterial Disease, Bellevue Hospital, New York; Chief, Department of Arterial Diseases, Shewesant Polyclinic Hospital, New York. Second Edition. London, New York, Toronto: Oxford University Press. 1940. Price, \$6.50.

SAMUELS was one of the pioneers in the use of hypertonic saline solutions for thromboangitis obliterans. He has carried on to see his method adopted widely and to find convincing laboratory evidence of its efficacy in increasing circulation to the extremities.

The general surgeon and general practitioner will be much impressed by the author's simple clinical signs which indicate poor circulation—pallor of the soles of the feet after the slightly ele-

vated feet have been flexed and extended for a few minutes; dry, brittle, curled-under toenails; cyanosis or pallor of the feet or hands.

Thromboangiitis obliterans, arteriosclerosis, Raynaud's disease, erythromelalgia, acrocyanosis, periarteritis nodosa, essential thrombophilia, embolism, cervical rib, frostbite, ergotism, and glomus tumor and aneurysm are discussed, with their essential diagnostic points, and the treatment of the first two conditions is presented in detail.



Occupational Diseases and the Law

Sappington

MEDICOLEGAL PHASES OF OCCUPATIONAL DISEASES: An Outline of Theory and Practice. By C. O. SAPPINGTON, A.M., M.D., DR. P.H., Consultant, Occupational Diseases and Industrial Hygiene, Formerly Director of Industrial Health, National Safety Council; etc. Chicago: Industrial Health Services. 1939. Price, \$3.00.

ANY critical analysis of a medicolegal problem in occupational disease involves a consideration of all the aspects of the problem as a whole, including the measurement and evaluation of industrial exposures; interpretation and application of information relating to physical examinations, diagnoses, clinical laboratory work, and x-ray findings; the correlation of industrial and medical information in terms of cause-and-effect relationships; occupational disease legislation; case decisions of damage suits; commission hearings and review decisions; and insurance coverage.

In this compact volume, the author has presented material along the lines suggested, in as nontechnical a manner as is practicable, so that it may be useful to lawyers, engineers, and other interested laymen, as well as to physicians, and the book can be recommended to all who are engaged in any phase of industrial medicine.



Obesity and Leanness

Rony

OBESITY AND LEANNESS. By HUGO R. RONY, M.D., Formerly Associate in Medicine and Chief of Endocrine Clinic, Northwestern University School of Medicine, Chicago, Illinois; etc. Philadelphia: Lea & Febiger. 1940. Price, \$3.75.

OBESITY and leanness are two aspects of the same problem, though they are rarely so considered.

In this work, the author describes in detail the contributions, in this field, of endocrinology, neurology, intermediary metabolism, cell physiology, and genetics, carefully sifting reliable data from suggestive evidences and mere speculations. The fact that he has been for a number of years a clinician, as well as an active research worker, qualifies him to carry out this critical analysis with authority. The reader, especially the general clinician, will find the principal subject clearly expressed and logically developed, with due attention to practical questions of diagnosis and therapy.



Ear, Nose, and Throat

Ballenger

OTOLOGY, RHINOLOGY AND LARYNGOLOGY. By HOWARD CHARLES BALLENGER, M.D., F.A.C.S., Assistant Professor of Otolaryngology, Northwestern University School of Medicine, Chicago, Illinois. Philadelphia: Lea & Febiger. 1940. Price, \$3.75.

WORKERS in the various head specialties have plenty of elaborate text books, but the general clinician needs a more concise volume, like this one, which will enable him to deal intelligently with the simpler cases that come to him. It includes only the accepted general and local treatments, omitting unnecessary theories, questionable treatments, and surgical technic. This organization and condensation of material best meets the needs of the undergraduate and of the general practitioners who are not specialists in this field.

Other Books Received

TOMORROW'S CHILDREN. Proceedings of the First Southern Conference on Tomorrow's Children, held in Atlanta, Georgia, November 9-11, 1939. New York: Birth Control Federation of America. Price, \$.75.

WORRY AND DISEASE. (A book especially for laymen). By EDWARD PODOLSKY, M.D. 1940. Emmaus, Pennsylvania: Rodale Press. Price, \$1.00.

"TELL ME THE TRUTH, DOCTOR." A frank, revealing, and educational discussion of Venereal Diseases and Sex Hygiene, conducted in the privacy of the Physician's Consulting Room. By IRWIN I. LUBOWE, M.D. 1938. Philadelphia: Dorrance and Company. Price, \$1.50.

MAYBE TOMORROW. A Nurse's Story (A Novel). By IRENE KROTH. 1940. Boston: Meador Publishing Company. Price, \$2.00.

PROBLEMS OF NERVOUS ANATOMY. (For anatomists, histologists, and teachers). By J. BOEKE, LL.D. (Glasg.). 1940. London: Oxford University Press. Price, \$2.75.

OFFICE CLINICAL CHEMISTRY. A Laboratory Guide for the Practitioner and Hospital. By EMANUEL M. ABRAHAMSON, B.S., Ch.E., M.A., Ph.D., M.D., Adjunct Attending Physician, The Jewish Hospital of Brooklyn; Assistant Attending Physician and Chief of the Diabetic Clinic, The Greenpoint Hospital; etc. 1940. New York: Oxford University Press. Price, \$5.00.

LABORATORY TEST IN PHARMACOLOGY. (Supplementing more complete laboratory manuals and standard texts, with emphasis on newer developments). By ROBERT P. WALTON, Professor of Pharmacology, School of Medicine, University of Mississippi. 1940. Philadelphia, London, Montreal: J. B. Lippincott. Price, \$1.50.

THE SOLDIER'S HEART AND THE EFFORT SYNDROME. By SIR THOMAS LEWIS, C.B.E., F.R.S., M.D., D.Sc., LL.D., F.R.C.P. Second Edition. 1940. London, England: Shaw & Sons, Ltd. Price, 8/6 d., post free.

CLINICAL HEART DISEASE. By SAMUEL A. LEVINE, M.D., F.A.C.P. Second Edition, Revised and Reset. 1940. Philadelphia: W. B. Saunders Company. Price, \$6.00.

AN INTRODUCTION TO PHARMACOLOGY AND THERAPEUTICS. By J. A. GUNN, M.A., M.D., D.Sc., F.R.C.P. Sixth Edition. 1940. New York: Oxford University Press. Price, \$1.75.

SULFANILAMIDE, SULFAPYRIDINE AND ALLIED COMPOUNDS IN INFECTIONS. By MAURICE A. SCHNITZER, M.D. Edited by HENRY A. CHRISTIAN, A.M., M.D., LL.D., Sc.D. (Hon.), F.A.C.P., Hon. F.R.C.P. (Can.). Reprinted from Oxford Loose-Leaf Medicine. 1940. New York: Oxford University Press. Price, \$1.50.

DIABETES. Practical Suggestions for Doctor and Patient. By EDWARD L. BORTZ, A.B., M.D., F.A.C.P. With a Foreword by GEORGE MORRIS PIERSON, B.S., M.D., F.A.C.P. Second Edition Revised and Enlarged. 1940. Philadelphia: F. A. Davis Company. Price, \$2.50.

VITAMIN E. A Symposium Held Under the Auspices of The Food Group (Nutrition Panel) of the Society of Chemical Industry on Saturday, 22nd April, 1939 at the School of Hygiene and Tropical Medicine, Keppel Street, London, W.C.1, England. 1940. New York: Chemical Publishing Company, Inc. Price, \$2.00.

THE LOUSE. An Account of the Lice Which Infest Man, Their Medical Importance and Control. By PATRICK A. BUXTON, M.A., M.R.C.S., L.R.C.P., D.T.M.&H. 1940. Baltimore: The Williams & Wilkins Company. Price, \$3.00.

PSYCHOLOGICAL AND NEUROLOGICAL DEFINITIONS AND THE UNCONSCIOUS. By SAMUEL KAHN, M.D., Ph.D. 1940. Boston: Meador Publishing Company. Price, \$2.00.

SIMPLIFIED DIABETIC MANUAL. With 163 International Recipes (American, Jewish, French, German, Italian, Armenian, etc.). By ABRAHAM RUDY, M.D. Introduction by Dr. FREDERICK M. ALLEN. 1940. New York: M. Barrows & Company, Inc. Price, \$2.00.

THE ERA KEY TO THE USP XI & NF VI. Fifth Edition Revised by LYMAN D. FONDA. 1939. Newark, N.J.: The Haynes & George Company, Inc. Price, \$1.00.

HANDBOOK OF HEARING AIDS. By A. F. NIEMOELLER, A.B., M.A., B.S. Foreword by HAROLD HAYS, M.D., F.A.C.S. 1940. New York: Harvest House. Price, \$3.00.

COMPLETE GUIDE FOR THE DEAFENED. By A. F. NIEMOELLER, A.B., M.A., B.S. With a Foreword by HAROLD HAYS, M.D., F.A.C.S. 1940. New York: Harvest House. Price, \$3.00.



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